WATER SUPPLY OUTLOOK FOR MONTANA

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

MONTANA AGRICULTURAL EXPERIMENT STATION

AS OF
MAY 1, 1977

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SNOW COURSE MEASUREMENTS BY A SURVEY TEAM IN UTAH'S WASATCH RANGE.
ORC-254-10

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, 6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P.O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia

USDA-SCS-PORTLAND, OR 1976

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MONTANA'S
MOUNTAIN SNOWPACK BELOW NORMAL

Based on snow surveys records of past years, we can expect streamflows to decrease to well below normal levels this year after the main snowmelt period has passed.

Irrigators who depend on natural streamflows (no stored water) and who have the later water rights on a stream, may wish to consider some of the following alternatives and adjust their operations to a short water supply.

1. Take land out of production for land leveling or summer fallow.
2. Plant early maturing crops.
3. Cut small grains or millet for hay.
4. Defer new plantings of grasses and hay crops until a more favorable water supply year.
5. Take advantage of any alfalfa or clover seed production opportunities to supplement income.
6. Make arrangements early if additional pasture or winter feed will be needed.
7. Reduce livestock inventory to balance with available feed.
8. Plan to harvest only one crop of alfalfa or graze early and plow down for green manure where recommended.
9. Keep large income producing crops on most productive land.
10. Improve irrigation water distribution systems wherever possible.
11. Use the most efficient irrigation practices possible.

U. S. DEPARTMENT of AGRICULTURE
CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY
SOIL CONSERVATION SERVICE

CONTACT YOUR LOCAL SOIL CONSERVATION DISTRICT
FOR ADDITIONAL ASSISTANCE

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MONTANA WATER SUPPLY OUTLOOK
May 1, 1977

SNOTEL IS HERE

Radio telemetry has been installed at ten SNOTEL (snow telemetry) sites in Montana. Western Union and Soil Conservation Service are proceeding with the installation of twenty additional sites. Data on snow water equivalent, air temperature and total precipitation are being transmitted using meteor burst communications. Daily reports are being received in the Snow Survey office in Bozeman. Additional information on the status of sites and their data will be reported in the May 15 Water Supply Outlook.

April was not a good precipitation month. Snowfall and precipitation were below average. Snowmelt is occuring at most elevations. Snow at many snow courses has completely melted and many streams have already, or are in the process of reaching their peak snow melt runoff.

Dry soils have absorbed much of this early snowmelt. Streamflow levels will be much lower than normal for the remainder of the season. Irrigation water supplies from natural streamflow will be in short supply by mid-June on many streams.

COLUMBIA RIVER DRAINAGE

Snow. Snowfall during April was below average. Climatological stations also report valley precipitation was about one-half of normal. Melt has started at all snow courses. Many snow courses are bare and mountain soils are drying. According to record this is the earliest many Montana snow courses have become bare. The current snowpack is about 20 to 40 percent of average.

Streamflow. Earlier than normal melt coupled with low snowpack has resulted in a worsening of the water supply outlook. Provisional streamflow data indicates runoff during April was 75 to 90 percent of average on the Flathead Tributaries and 45 to 65 percent of average on other drainages. Most of the streams reached snowmelt peak in early May. The Bitterroot should reach it's snow melt peak around mid-May.

Streamflow will become quite low by mid-June. Most streams in the Clark Fork drainage are forecast to have the lowest or near lowest runoff of record for the next five months. Runoff in the Flathead is expected to be slightly greater than the low years of the early 1940's. The streamflow will be similar to, or less than 1973 which is the most recent dry year. Irrigation water supplies on streams not having stored water will be in short supply after mid-June. Even irrigation supplies from reservoirs will be much less than normal.

MISSOURI RIVER BASIN

Snow. All snow courses showed decreases in water content during April. Snowfall was below average in the mountains and melt has started earlier than usual. Valley precipitation has also been below average for April. Many snow courses have become bare earlier than normal. Mountain soils are drying from warm temperatures and lack of snow or rain.

The present snowpack is about 15 to 45 percent of average in Missouri headwaters and along the Continental Divide. Small mountain ranges in Central Montana have 60 to 80 percent of the average May 1 snowpack.

Streamflow. Early melt and low winter snowpack have deteriorated the water supply outlook.

Runoff during April, based on preliminary data was about 50 percent of average in the Beaverhead, 75 to 80 percent of average on the Big Hole, Jefferson and Sun Rivers. The Madison River had about average April runoff while the Gallatin flow was a little above average. The inflow to Clark Canyon reservoir is forecast to be less than 10 percent of average for the next five months. Most other Missouri River streams are forecast between 30 and 60 percent average runoff. Exceptions are streams in Central Montana where streamflow should be 80 to 90 percent average.

Except for streamflow in the central part of Montana, the forecasted runoff for the May through September period is the lowest or near the lowest of record.

The Madison and many smaller streams have already reached their peak snowmelt runoff. The Big Hole, Jefferson, Missouri and major streams flowing into the Missouri with headwaters on the Continental Divide are expected to reach their snowmelt peak early in May. The Gallatin River should reach it's snowmelt peak by mid-May.

Irrigation water will be in short supply by mid-June on all streams not having stored water.

YELLOWSTONE RIVER BASIN

Snow. Snowfall during April was below average. Melt has depleted the snowpack at almost all snow courses in the basin. The only snow courses showing an increase during the month are Picket Pin Upper, Cole Creek, Grizzly Peak and Timberline Creek, all near Red Lodge.

Snow at almost all snow courses in Yellowstone National Park has melted. Precipitation at most valley climatic stations was below average for April. Mountain soils are drying from warm temperatures and the lack of snow and rain.

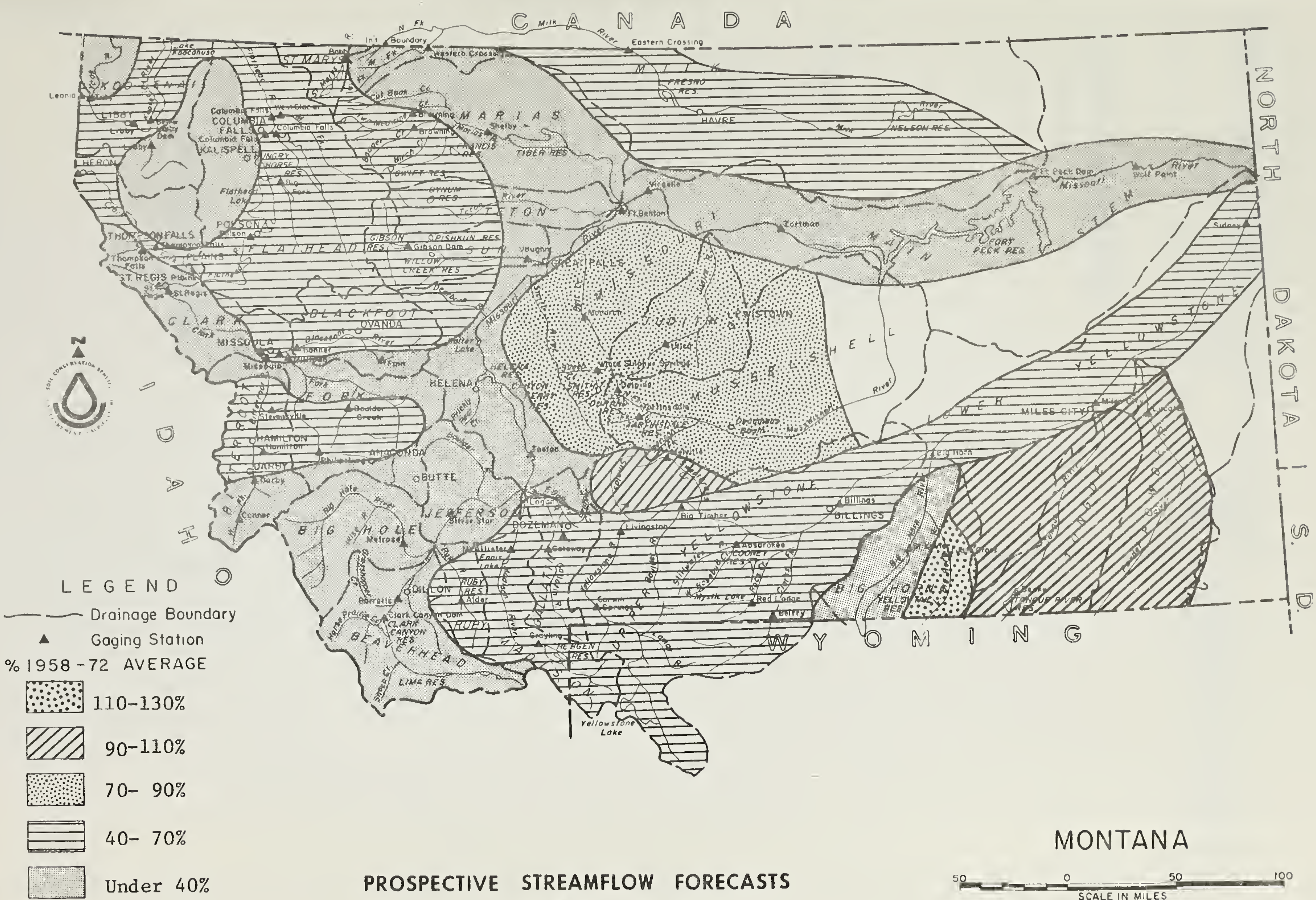
The snowpack is 40 to 60 percent of average in the Yellowstone and Bighorn River headwaters. Snowpack in the north end of the Bighorn mountains continues to be above average.

Streamflow. Early melt and lack of winter snowpack have lowered the available water supply. Runoff during April was generally 60 to 80 percent average on Yellowstone tributaries above the Bighorn and average or above on the Bighorn tributaries.

Streamflow for the next five months is forecast at about one-half of average on the Yellowstone River and it's tributaries. The Bighorn is forecast to be about one-fourth of average while the Little Bighorn should produce above average runoff.

Most streams in the Yellowstone drainage are forecast to have the lowest or near lowest runoff of record. Many smaller streams have already reached their peak snowmelt runoff. The major streams are expected to reach their peak snowmelt runoff by mid-May.

Irrigation water will be in short supply by mid-June on smaller tributaries and by late June or early July on larger streams.

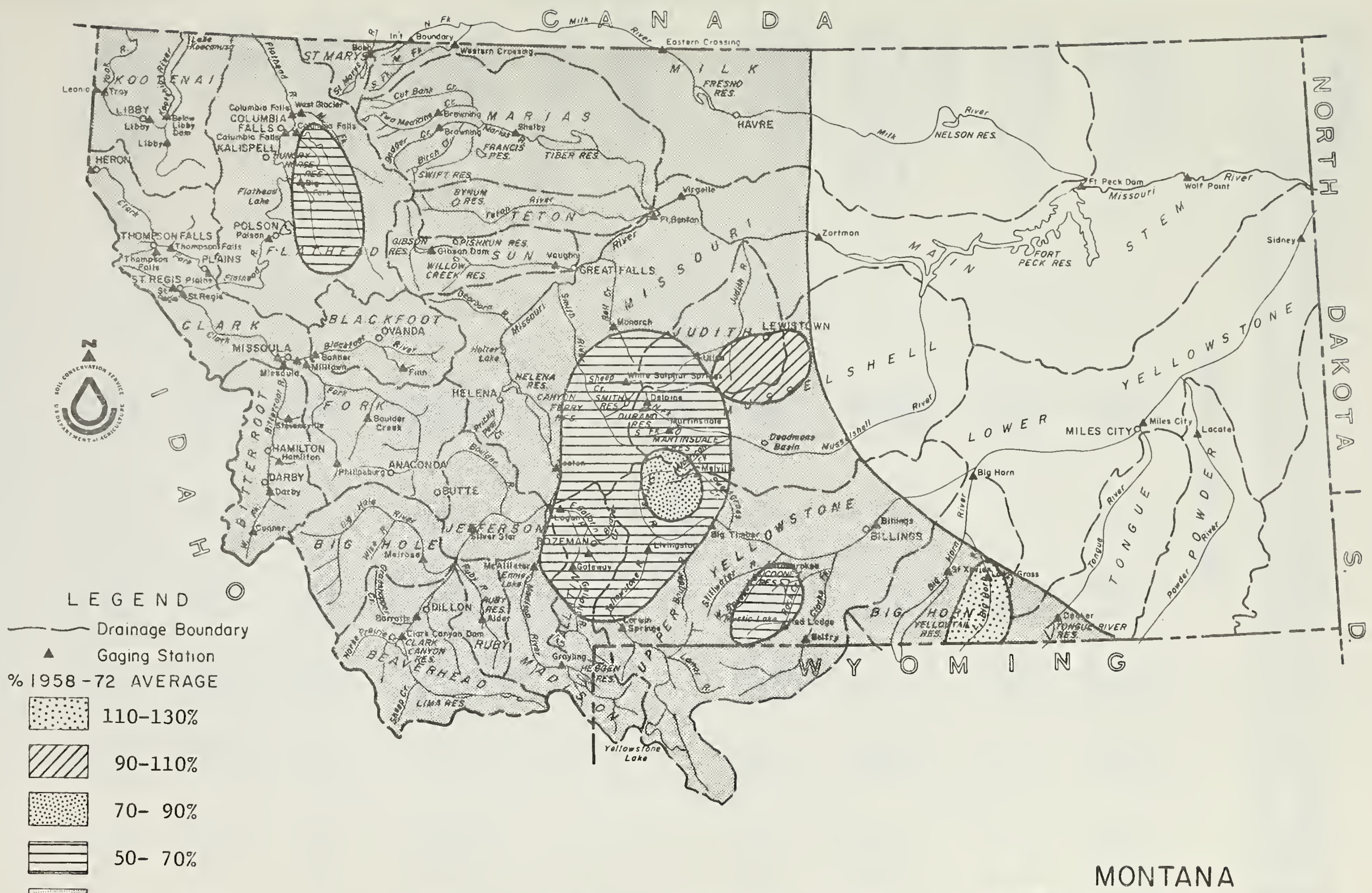


PROSPECTIVE STREAMFLOW FORECASTS
AS OF
May 1, 1977

M7-0-21138A-L

SUMMARY of SNOW MEASUREMENTS (COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF:	
		Last Year	Average
COLUMBIA RIVER DRAINAGE			
Kootenai	41	33	36
Flathead	21	43	41
Upper Clark Fork	30	19	23
Lower Clark Fork	13	29	31
Bitterroot	12	25	31
MISSOURI RIVER DRAINAGE			
Jefferson	45	19	25
Madison	20	18	23
Gallatin	17	41	47
Missouri Main Stem	12	37	44
Judith-Musselshell	11	75	70
Marias-Teton-Sun	7	15	14
Milk	2	6	4
YELLOWSTONE RIVER DRAINAGE			
Yellowstone (above Bighorn)	27	38	47
Bighorn	17	49	62
Little Bighorn	7	115	120
Tongue	9	93	102
Powder	3	37	49
SASKATCHEWAN RIVER DRAINAGE			
Bow	-	-	-
St. Mary's	7	35	33



MOUNTAIN SNOW WATER EQUIVALENT
AS OF
May 1, 1977

M7-O-21138B-L

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

SOIL MOISTURE

DRAINAGE BASIN and/or STATION		Profile (Inches)		Date of Survey	Soil Moisture (Inches)		
Name	Elevation	Depth	Capacity		This Year	Last Year	Average †
COLUMBIA RIVER BASIN							
Kootenai							
Baree Trail	3800	48	7.5	4-29	6.6	6.4	6.6
Murphy Lake R. S.	3000	48	22.6	5-1	19.5	20.6	21.8
Raven	3050	48	23.0	4-29	14.0	16.9	18.8
Flathead							
Desert Mountain	5600	54	8.4	4-29	9.2	9.0	8.6
Marias Pass	5250	54	6.5	4-23	6.4	6.4	6.2
Clark Fork							
Black Pine	7100	48	10.0	5-1	9.1	8.5	7.8
Lubrecht Forest	4100	48	26.8	-	-	-	-
Seeley Lake R. S.	4030	48	11.9	5-5	10.3	12.6	11.8
Skalkaho Summit	7260	48	10.8	4-29	9.3	10.2	10.0
Bitterroot							
Gibbons Pass	7100	48	7.1	4-28	4.0	5.4	5.5
Lolo Pass	5250	48	10.6	4-28	8.1	7.6	7.2
MISSOURI RIVER BASIN							
Beaverhead							
Lakeview	6700	48	15.3	4-30	15.2	18.5	14.0
Madison							
West Yellowstone	6700	48	6.5	5-5	3.0	3.4	3.2
Gallatin							
Bridger Bowl	7250	48	17.0	4-27	16.1	15.4	16.0
College Site No. 2	4860	48	17.7	4-29	16.2	19.6	16.5
Lick Creek	6860	48	18.8	4-28	14.4	14.8	17.2
Twenty-One Mile	7150	48	10.0	-	-	-	-
Missouri Main Stem							
Kings Hill	7420	48	11.8	4-27	6.0	8.6	7.2
Stemple Pass	6350	48	5.9	4-29	5.4	5.1	5.0
Milk							
Beaver Creek	3950	48	20.9	4-30	10.4	10.0	15.0
Rocky Boy	4700	36	10.1	4-30	9.3	9.6	9.7
Yellowstone							
Battle Ridge	6020	48	17.6	4-27	12.7	13.3	14.7
Northeast Entrance	7350	48	9.4	-	-	-	-
PMC Dryland	3700	48	20.7	4-29	5.4	8.6	-

† Average for period of record.

RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH

Basin or Stream	RESERVOIR	Usable Capacity	Usable Storage		
			This Year	Last Year	Average
COLUMBIA RIVER BASIN					
Kootenai	Koocanusa	5,694.0	2,291.0	135.0	-
Flathead	Hungry Horse	3,428.0	2,288.0	2,031.0	2,006.0
	Flathead Lake	1,791.0	877.4	1,067.0	977.9
	Camas (4)	45.2	17.6	25.2	32.5
	Mission Valley (8)	100.3	67.2	64.8	44.0
Clark Fork	Georgetown Lake	31.0	29.0	25.6	23.1
	Lower Willow Creek	4.9	3.2	2.9	2.4
	Nevada Creek	12.6	-	12.8	10.0
	Noxon Rapids	334.6	314.0	262.1	138.4
Bitterroot	Como	34.9	-	25.8	19.0
	Painted Rocks	31.7	14.2	32.4	25.9
MISSOURI RIVER BASIN					
Beaverhead	Clark Canyon	257.2	179.6	176.9	148.9
	Lima	84.0	65.6	66.9	51.5
Ruby	Ruby	38.8	-	36.2	35.0
Madison	Hebgen Lake	337.5	270.9	195.6	212.6
	Ennis Lake	41.0	35.6	35.0	36.6
Gallatin	Middle Creek	8.0	6.7	4.4	4.5
Missouri	Canyon Ferry	2,043.0	1,552.0	1,449.0	1,552.0
	Hauser & Helena	61.9	60.5	62.5	59.3
	Lake Helena	10.4	10.7	10.7	9.6
	Holter Lake	81.9	81.1	79.7	70.6
	Smith River	10.6	-	11.1	8.9
	Bair	7.0	-	7.1	6.3
	Martinsdale	23.1	-	18.1	10.4
	Deadman's Basin	72.2	40.1	-	53.0
	Fort Peck Lake	18,910.0	15,880.0	17,440.0	13,470.0
Sun	Gibson	99.0	76.5	61.8	48.8
	Willow Creek	32.2	27.2	29.8	23.4
	Pishkun	32.0	31.4	30.1	23.1
Marias	Lower Two Medicine	11.9	-	-	-
	Four Horns	19.2	-	-	-
	Swift	30.0	22.4	22.9	20.6
	Lake Frances	111.9	77.1	95.1	84.6
	Tiber	1,347.0	492.5	545.6	611.2
Milk	Beaver Creek	3.5	2.8	2.7	-
	Fresno	127.2	68.6	124.9	106.5
	Nelson	66.8	45.2	51.8	46.8
	Lake Sherburne	66.2	23.2	41.0	20.7
Yellowstone	Mystic Lake	21.0	0.0	1.9	3.1
	Tongue River	68.0	-	36.6	35.2
	Cooney	27.4	20.2	16.0	16.7
Bighorn	Bighorn Lake	1,356.0	888.4	771.4	783.9

Average based on 1958-72 period.

PEAK FLOWS (MAXIMUM MEAN DAILY) (Av. flow for 24 hrs. on day of greatest flow)

FORECAST POINT	PEAK FLOW (SECOND FEET)	
	Forecast Range	Average
COLUMBIA RIVER DRAINAGE		
Blackfoot River near Bonner	2,000 - 6,000	9,902
Clark Fork River above Missoula	3,000 - 8,000	16,531
Bitterroot River near Darby	1,500 - 3,000	6,650
Clark Fork River below Missoula	8,000 - 15,000	32,373
Clark Fork River at St. Regis	12,000 - 20,000	41,080
N. Fork Flathead near Columbia Falls	7,000 - 12,000	23,167
N. Fork Flathead near West Glacier	9,000 - 14,000	25,020
MISSOURI RIVER DRAINAGE		
Big Hole River near Melrose	1,000 - 3,000	8,009
Jefferson River at Silver Star	2,000 - 4,000	8,810
Gallatin River near Gateway	2,500 - 3,500	5,369
Gallatin River near Logan	2,000 - 3,500	5,324
Missouri River at Toston	5,000 - 8,000	18,005
Belt Creek near Monarch	500 - 1,500	1,742
Marias River near Shelby	500 - 3,000	12,720
S. Fork Musselshell above Martinsdale	300 - 650	745
YELLOWSTONE RIVER DRAINAGE		
Yellowstone River at Livingston	10,000 - 14,000	20,560
Boulder River near Big Timber	2,000 - 3,500	5,100
Stillwater River near Absarokee	2,000 - 4,000	6,261
Clarks Fork River near Belfry	3,500 - 5,500	7,342
Rock Creek near Red Lodge	300 - 600	1,067
Yellowstone River at Billings	20,000 - 28,000	39,188

*Highly abnormal weather during the critical melting period may cause the peak to be outside the indicated range.

Average based on 1958-72 period.

STREAMFLOW FORECASTS

BASIN, STREAM and or FORECAST POINT	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	FORECAST PERIOD	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
COLUMBIA RIVER BASIN					
KOOTENAI RIVER					
Libby (near)(2)	3,500	50	May-Sept	7,455	6,981
Below Libby Dam	2,950	50	May-July	5,706	5,941
	2,300	51	May-June	4,036	4,535
FISHER RIVER					
Libby (near)	70.0	34	May-Sept		205
	60.0	31	May-July		188
YAAK RIVER					
Troy (near)	160	35	May-Sept		451
	150	35	May-July		428
KOOTENAI RIVER					
Leonia (at)(2)	4,300	52	May-Sept		
	3,550	50	May-July		
	2,750	49	May-June		
INFLOW MOULTON RESERVOIR					
Butte (near)(million gallons)	60	32	May-June	355	186
WARM SPRINGS CREEK AT MEYERS DAM					
Anaconda (near)(3)	21.0	43	May-Sept	61.1	48.9
	17.0	43	May-July	48.1	39.5
FLINT CREEK					
Southern Cross (near)(4)	5.3	36	May-Sept	28.6	14.9
	4.5	35	May-July	23.2	12.7
FLINT CREEK					
Boulder Creek (below)(5)	29.0	45	May-Sept		64.0
	22.0	45	May-July		48.5
INFLOW LOWER WILLOW CREEK RESERVOIR					
Hall (near)(6)	3.8	28	May-Sept	22.7	13.5
	3.5	27	May-July	21.4	12.8
MIDDLE FORK ROCK CREEK					
Philipsburg (near)	30.0	42	May-Sept		72.0
	27.0	42	May-July		64.6
NEVADA CREEK					
Finn (near)	4.0	23	May-Sept		17.4
	3.5	22	May-July		15.8

(2) Adjusted for storage in Lake Koocanusa.
(3) Adjusted for storage in Silver Lake, diversions to and pumping from Georgetown Lake.
(4) Adjusted for storage in Georgetown Lake, diversions from and pumping to Silver Lake.
(5) Sum Flint Creek at Maxville and Boulder Creek at Maxville.
(6) Sum of North Fork Lower Willow Creek near Hall and South Fork Lower Willow Creek near Hall.

Average based on 1958-72 period.

STREAMFLOW FORECASTS

BASIN, STREAM and or FORECAST POINT	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	FORECAST PERIOD	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
COLUMBIA RIVER BASIN (Continued)					
BLACKFOOT RIVER					
Bonner (near)	400	44	May-Sept		905
	340	42	May-July		809
	290	42	May-June		688
CLARK FORK RIVER					
Milltown (above)(7)	290	43	May-Sept		681
	230	40	May-July		578
	180	38	May-June		479
CLARK FORK RIVER					
Missoula (above)	690	44	May-Sept	2,231	1,586
	570	41	May-July	1,970	1,387
	470	40	May-June	1,688	1,167
WEST FORK BITTERROOT RIVER					
Conner (near)(8)	57.0	36	May-Sept		159
	50.0	35	May-July		142
BITTERROOT RIVER					
Darby (near)	200	38	May-Sept	728	529
	180	37	May-July	650	486
	155	37	May-June	558	424
SKALKAHO CREEK					
Hamilton (near)	24.5	46	May-Sept		53.6
	21.0	45	May-July		46.7
BURNT FORK CREEK					
Stevensville (near)(9)	16.5	50	May-Sept		33.3
	14.0	48	May-July		29.0
BITTERROOT RIVER					
Missoula (at)(10)	490	36	May-Sept		1,375
	430	34	May-July		1,261
	380	35	May-June		1,084
CLARK FORK RIVER					
Missoula (below)	1,180	40	May-Sept		2,961
	1,000	38	May-July		2,648
	850	38	May-June		2,251
CLARK FORK RIVER					
St. Regis (at)	1,500	38	May-Sept	5,278	3,941
	1,280	36	May-July	4,663	3,521
	1,050	35	May-June	3,953	2,996
NORTH FORK FLATHEAD RIVER					
Columbia Falls (near)	970	54	May-Sept		1,809
	850	52	May-July		1,631
	725	53	May-June		1,369

(7) Difference in observed flow Clark Fork above Missoula and Blackfoot near Bonner.
(8) Adjusted for storage in Painted Rocks Reservoir.
(9) Adjusted for diversion into Sunset Highline Canal.
(10) Difference in observed flow Clark Fork above and below Missoula.

Average based on 1958-72 period.

STREAMFLOW FORECASTS

BASIN, STREAM and or FORECAST POINT	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	THIS YEAR FORECAST PERIOD	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
COLUMBIA RIVER BASIN (Continued)					
MIDDLE FORK FLATHEAD RIVER					
West Glacier (near)	1,100	63	May -Sept	1,784	1,740
	1,000	63	May -July	1,581	1,591
	850	64	May -June	1,259	1,337
SOUTH FORK FLATHEAD RIVER					
Columbia Falls (near)	1,320	62	May -Sept	2,177	2,120
	1,200	61	May -July	2,033	1,982
	1,060	61	May -June	1,726	1,726
FLATHEAD RIVER					
Columbia Falls (at) (11)	3,450	60	May -Sept	6,037	5,785
	3,200	60	May -July	5,428	5,305
	2,750	61	May -June	4,452	4,514
SWAN RIVER					
Big Fork (near)	365	59	May -Sept		622
	320	60	May -July		535
FLATHEAD RIVER					
Polson (near)(12)	3,800	56	May -Sept	7,178	6,838
	3,520	56	May -July	6,334	6,271
	3,000	57	May -June	5,151	5,303
CLARK FORK RIVER					
Plains (near)(12)	5,500	49	May -Sept	12,597	11,182
	4,850	48	May -July	11,110	10,103
	4,000	47	May -June	9,139	8,515
THOMPSON RIVER					
Thompson Falls (near)	80.0	35	May -Sept		229
	65.0	32	May -July		200
PROSPECT CREEK					
Thompson Falls (at)	43.0	37	May -Sept		116
	38.0	36	May -July		107
CLARK FORK RIVER					
Whitehorse Rapids (at)(13)	6,000	49	May -Sept		12,349
	5,250	47	May -July		11,118
	4,350	46	May -June		9,358

(11) Adjusted for storage in Hungry Horse Reservoir.
(12) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.
(13) Adjusted for storage in Hungry Horse Reservoir, Flathead Lake, and Noxon Rapids Reservoirs.

Average based on 1958-72 period.

STREAMFLOW FORECASTS

BASIN, STREAM and or FORECAST POINT	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	FORECAST PERIOD	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
MISSOURI RIVER BASIN					
BEAVERHEAD RIVER					
Grant (near)(14)	7.0	7	May-Sept	187	106
	5.0	6	May-July	145	88.3
RUBY RIVER					
Alder (near)	39.0	46	May-Sept		84.5
	30.0	43	May-July		70.0
BIG HOLE RIVER					
Melrose (near)	190	29	May-Sept		665
	180	29	May-July		611
BIRCH CREEK					
Glen (near)	5.6	43	May-Sept		13.1
	4.4	40	May-July		10.9
BOULDER RIVER					
Boulder (near)	31.0	39	May-Sept	132	80.5
	30.0	39	May-July	120	76.2
WILLOW CREEK					
Harrison (near)	3.0	18	May-Sept		16.8
	2.5	17	May-July		14.9
MADISON RIVER					
Grayling (near)(15)	225	53	May-Sept	523	425
	155	49	May-July	398	319
MADISON RIVER					
McAllister (near)(16)	400	54	May-Sept	897	734
	290	52	May-July	696	558
GALLATIN RIVER					
Gateway (near)	300	59	May-Sept		507
	250	59	May-July		422
INFLOW MIDDLE CREEK RESERVOIR					
Bozeman (near)(17)	17.5	66	May-Sept		26.5
	14.7	65	May-July		22.7
HYALITE CREEK					
Bozeman (near)(18)	27.3	66	May-Sept		41.5
	23.0	65	May-July		35.5
GALLATIN RIVER					
Logan (at)	220	44	May-Sept		505
	175	42	May-July		420

(14) Adjusted for storage in Lima and Clark Canyon Reservoirs.
(15) Adjusted for storage in Hebgen Lake.
(16) Adjusted for storage in Hebgen and Ennis Lakes.
(17) Sum of West Fork Hyalite Creek and East Fork Hyalite Creek above Reservoir.
(18) Adjusted for storage in Middle Creek Reservoir.

Average based on 1958-72 period.

STREAMFLOW FORECASTS

BASIN, STREAM and or FORECAST POINT	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	THIS YEAR FORECAST PERIOD	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
MISSOURI RIVER BASIN (Continued)					
MISSOURI RIVER					
Toston (at)(19)	700	33	May-Sept	3,012	2,104
	530	30	May-July	2,663	1.781
SHEEP CREEK					
White Sulphur Springs (near)	17.2	88	May-Sept	22.2	19.5
	14.6	87	May-July	18.9	16.8
SUN RIVER					
Gibson Dam (at)(20)	240	43	May-Sept	649	556
	210	41	May-July	590	507
BELT CREEK					
Monarch (near)	98.0	85	May-Sept		115
	90.0	86	May-July		105
MISSOURI RIVER					
Fort Benton (at)(21)	1,250	39	May-Sept		3,227
	920	35	May-July		2,660
TWO MEDICINE CREEK					
Browning (near)(22)	120	53	May-Sept		226
	110	52	May-July		213
BADGER CREEK					
Browning (near)	64.0	54	May-Sept		119
	52.0	51	May-July		102
MARIAS RIVER					
Shelby (near)(23)	145	30	May-Sept		486
	140	30	May-July		465
MISSOURI RIVER					
Virgelle (at)(24)	1,400	37	May-Sept		3,799
	1,060	33	May-July		3,199
SOUTH FORK JUDITH RIVER					
Utica (near)	11.1	80	May-Sept		13.9
	10.1	80	May-July		12.7
MISSOURI RIVER					
Landusky (near)(24)	1,500	36	May-Sept		4,150
	1,170	33	May-July		3,512

(19) Adjusted for storage in Hebgen and Ennis Lakes and Clark Canyon Reservoir.
(20) Adjusted for storage in Gibson Reservoir and diversions.
(21) Adjusted for storage in Canyon Ferry Reservoir.
(22) Adjusted for storage in Two Medicine Reservoir and diversions into Two Medicine Canal.
(23) Adjusted for storage in Two Medicine, Four Horns, Lake Frances, and Swift Reservoir.
(24) Adjusted for storage in Canyon Ferry and Tiber Reservoirs.

Average based on 1958-72 period.

STREAMFLOW FORECASTS

BASIN, STREAM and or FORECAST POINT	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	FORECAST PERIOD	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
MISSOURI RIVER BASIN (Continued)					
NORTH FORK MUSSELSHELL RIVER					
Delpine (near)	4.0	78	May -Sept		5.1
	3.3	79	May -July		4.2
SOUTH FORK MUSSELSHELL RIVER					
Martinsdale (above)	34.5	78	May -Sept		44.5
	33.0	79	May -July		41.7
MISSOURI RIVER					
Fort Peck Dam (below)(25)	1,350	34	May -Sept		3,936
	1,050	31	May -July		3,407
MILK RIVER					
Eastern Crossing (at)	155	70	May-Sept		221
MISSOURI RIVER					
Wolf Point (near)(25)	1,450	35	May -Sept		4,105
	1,100	31	May -July		3,567
MISSOURI RIVER					
Williston, N.D. (near)(31)	4,150	40	May -Sept		10,352
	3,600	41	May -July		8,787
SASKATCHEWAN RIVER BASIN					
ST. MARY RIVER					
Babb (near)(32)	285	61	May -Sept		468
	240	60	May -July		399

(25) Adjusted for storage in Canyon Ferry, Tiber, and Fort Peck Reservoirs.
(31) Adjusted for storage in Canyon Ferry, Tiber, Fort Peck, Buffalo Bill, Boysen and Yellowtail Reservoirs. Sum Yellowstone River near Sidney and Missouri River near Culbertson.
(32) Adjusted for storage in Lake Sherburne.

Average based on 1958-72 period.

STREAMFLOW FORECASTS

BASIN, STREAM and or FORECAST POINT	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	FORECAST PERIOD	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
YELLOWSTONE RIVER BASIN					
YELLOWSTONE RIVER					
Corwin Springs (at)	1,080	56	May-Sept	2,378	1,915
	900	57	May-July	2,002	1,581
YELLOWSTONE RIVER					
Livingston (near)	1,250	56	May-Sept		2,212
	1,000	55	May-July		1,821
BOULDER RIVER					
Big Timber (at)	195	53	May-Sept		367
	180	53	May-July		338
STILLWATER RIVER					
Absarokee (near)(26)	310	54	May-Sept		571
	260	55	May-July		474
CLARKS FORK RIVER					
Belfry (near)	320	55	May-Sept		586
	300	57	May-July		525
ROCK CREEK					
Red Lodge (near)	56.0	52	May-Sept	130	108
	41.0	50	May-July	102	81.7
INFLOW COONEY RESERVOIR					
Boyd (near)(27)	20.0	44	May-Sept		45.1
	16.0	46	May-July		34.7
YELLOWSTONE RIVER					
Billings (at)	2,100	52	May-Sept	5,391	4,016
	1,800	53	May-July	4,556	3,383
BIGHORN RIVER					
St. Xavier (near)(28)	450	26	May-Sept	1,925	1,724
	430	27	May-July	1,694	1,581
LITTLE BIGHORN RIVER					
Lodgegrass (near)(29)	165	124	May-Sept		133
	145	126	May-July		115
YELLOWSTONE RIVER					
Miles City (at)(30)	2,750	46	May-Sept		5,931
	2,350	46	May-July		5,108
YELLOWSTONE RIVER					
Sidney (near)(30)	2,800	46	May-Sept		6,138
	2,400	48	May-July		5,367

(26) Adjusted for storage in Mystic Lake.
(27) Sum of Red Lodge Creek above Reservoir and Willow Creek near Boyd.
(28) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake and Yellowtail
(29) Sum Little Bighorn below Pass Creek and Lodgegrass Creek near Wyola.
(30) Adjusted for storage in Buffalo Bill, Boysen and Yellowtail Reservoirs.

Average based on 1958-72 period.

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average
ABUNDANCE LAKE	8800	4/29	30	11.8	35.2	23.0
AMBROSE	6480	4/28	4	1.6	17.4	13.9
ARCH FALLS	7350	4/28	22	8.1	19.8	16.2
BALD EAGLE PEAK	5700	4/28	59	28.8	67.7	69.3
BALD RIDGE	7500	4/29	20	7.8	15.7	14.6
BANFIELD MOUNTAIN	5600	4/27	14	5.6	26.3	23.7
BANFIELD MOUNTAIN PILLOW	5600	4/27	SP	.4	21.9	20.9
BAREE CREEK	5500	4/28	39	18.7	56.2	49.6
BAREE MIDWAY	4600	4/28	31	12.2	37.1	35.1
BAREE TRAIL	3800	4/28	0	.0	.3	1.2
BASIN CREEK	7180	4/28	17	5.3	17.8	-
BASSOO PEAK	5150	4/28	0	.0	5.1	8.5
BATTLE RIDGE	6020	4/27	0	.0	3.9	5.4
BEAGLE SPRINGS	8850	5/01	0	.0	-	-
BEAR BASIN	8150	4/27	35	13.2	29.0	24.9
BEAR MOUNTAIN (ID)	5400	4/27	48	23.0	-	68.8
BEAR PAW SKI AREA	5200	4/30	0	.0	-	7.2
BIG COULEE	5100	4/28	15	7.3	4.1	-
BIG CREEK	6750	4/27	71	32.1	48.3	54.5
BIG SKY	7700	4/27	24	9.1	21.8	20.4
BIG SKY MEADOW	6350	4/27	0	.0	8.2	3.8
BIG SNOWY	7150	4/28	58	25.0	22.2	24.9
BIG SPRINGS (ID)	6500	5/02	0	.0	20.3	-
BLACK BEAR	7950	4/29	17	7.7	54.6	-
BLACK BEAR PILLOW	7950	4/29	SP	9.1	43.7	-
BLACK MOUNTAIN	7750	4/26	14	5.0	-	-
BLACK PINE	7100	4/26	14	5.0	21.1	14.3
BLACK PINE PILLOW	7100	4/27	SP	6.9	24.0	15.2
BLOODY DICK	7600	4/28	8	2.3	21.2	14.2
BLOODY DICK PILLOW	7600	4/26	SP	1.0	-	-
BOTS SOTS	8000	4/29	9	3.0	12.0	-
BOULDER MOUNTAIN	7950	4/26	32	11.6	28.6	22.2
BOULDER MOUNTAIN PILLOW	7950	4/26	SP	12.0	-	-
BOX CANYON	6670	5/02	0	.0	18.0	-
BOX CANYON PILLOW	6670	5/02	SP	.0	-	-
BOXELDER CREEK	5100	4/30	0	.0	-	-
BRANHAM LAKES	8850	4/29	37	14.4	43.0	36.6
BRIDGER BOWL	7250	4/27	41	18.9	35.7	35.1
BRIDGER BOWL PILLOW	7250	4/27	SP	17.2	35.7	34.0
BRISTOW CREEK	3900	4/27	0	.0	.4	2.3
BRUSH CREEK TIMBER	5000	4/28	0	.0	8.1	8.2
BULL MOUNTAIN	6600	4/29	0	.0	5.4	-
CABIN CREEK	5200	4/27	0	.0	.0	2.2
CALL ROAD	8050	5/01	14	4.4	17.6	13.9
CALVERT CREEK	6450	4/27	0	.0	14.0	9.2
CALVERT CREEK PILLOW	6450	4/27	SP	.0	5.1	-
CAMP MISERY	6400	4/27	90	41.3	51.2	52.3
CAMP SENIA	7890	4/29	15	5.0	12.6	9.8

Average based On 1958-72 period. A - Aerial observation; water content estimated.
SP - Snow Pillow observation; water content only.

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Elevation	THIS YEAR: Date of Survey	THIS YEAR: Snow Depth (Inches)	THIS YEAR: Water Content (Inches)	PAST RECORD: Water Content (inches) Last Year	PAST RECORD: Water Content (inches) Average
CANYON (WY)	7750	5/02	0	.0	21.0	16.0
CARROT BASIN	9000	4/27	40	17.2	46.6	43.4
CARROT BASIN PILLOW	9000	4/27	SP	15.4	38.4	-
CEDAR GROVE	4100	4/28	0	.0	10.8	6.8
CHESSMAN RESERVOIR	6200	4/30	0	.0	5.0	2.5
CHICKEN CREEK	4060	4/25	0	.0	-	-
CLOVER MEADOW	8600	5/01	24	8.0	26.0	20.8
COLE CREEK	7850	4/25	43	15.5	30.2	-
COLE CREEK PILLOW	7850	4/25	SP	13.1	26.7	-
COLLEY CREEK	6300	4/28	0	.0	7.7	-
COMBINATION	5600	4/26	0	.0	6.4	5.9
COMBINATION PILLOW	5600	4/26	SP	.0	6.0	-
COOKE STATION	8150	4/29	28	10.0	30.4	22.0
COPPER BOTTOM	5200	4/28	0	.0	7.5	6.6
COPPER BOTTOM PILLOW	5200	4/28	SP	.0	13.5	-
COPPER CAMP	6950	4/28	22	8.2	36.8	36.6
COPPER CAMP PILLOW	6950	4/28	SP	8.7	45.3	-
COPPER CREEK	5700	4/28	0	.0	12.1	12.4
COPPER LAKE CREEK	6100	4/28	10	3.6	25.1	25.5
COPPER MOUNTAIN	7700	4/29	0	.0	15.5	12.5
COTTONWOOD CREEK	6400	4/29	0	.0	-	-
COYOTE HILL	4200	4/26	2	.6	1.9	3.5
CRYSTAL LAKE	6100	4/28	30	12.9	7.3	16.2
DAD CREEK LAKE	8400	5/01	14	3.4	24.0	17.6
DAISY PEAK	7600	4/27	6	2.0	14.7	12.4
DALY CREEK	5780	4/26	14	4.6	18.0	-
DARKHORSE LAKE	8600	4/29	32	13.6	43.0	29.4
DAVIS CREEK	5400	4/26	13	4.9	24.5	24.2
DEADMAN CREEK	6450	4/27	17	6.4	8.8	10.6
DEADMAN CREEK PILLOW	6450	4/27	SP	6.0	6.0	8.2
DESERT MOUNTAIN	5600	4/29	15	5.9	16.6	15.2
DEVILS SLIDE	8100	4/28	48	18.8	32.5	28.6
DISCOVERY BASIN	7050	4/26	8	2.5	12.4	-
DIVIDE	7800	5/01	0	.0	13.2	11.5
DIVIDE PILLOW	7800	5/01	SP	4.5	13.2	-
DIX HILL	6400	5/01	0	.0	6.0	-
EAST FORK R.S.	5400	4/29	0	.0	.0	-
ELK HORN SPRINGS	7800	5/01	0	.0	14.3	9.1
ELK PEAK	8000	4/28	36	14.4	23.2	22.1
EMERY CREEK	4350	4/29	0	.0	11.1	-
EMERY CREEK PILLOW	4350	4/29	SP	.0	-	-
FATTY CREEK	5500	4/27	42	15.5	23.4	25.0
FISH CREEK	8000	4/28	20	6.0	20.1	-
FISHER CREEK	9100	4/29	55	22.8	53.2	42.4
FISHER CREEK PILLOW	9100	4/29	SP	22.4	50.2	38.9
FLEECER RIDGE	7500	4/29	1	.4	16.3	-
FOOLHEN	8280	4/29	18	7.4	27.5	19.9
FOUR MILE	6900	4/29	1	.3	13.8	8.8
FOURTH OF JULY	3450	4/27	0	.0	-	-
FRED BURR PASS	8000	4/27	32	11.8	38.3	32.6

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SP - Snow Pillow observation; water content only.

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average
FRIDAY HILL	4620	4/27	0	.0	-	-
FROHNER MEADOWS	6480	4/27	0	.0	8.7	-
FROHNER MEADOWS PILLOW	6480	4/25	SP	3.8	8.7	-
GARVER CREEK	4250	4/26	0	.0	3.9	5.4
GARVER CREEK PILLOW	4250	4/26	SP	1.1	3.0	5.1
GIBBONS PASS	7100	4/28	12	4.5	30.1	24.2
GOAT MOUNTAIN	7000	4/28	1	.1	10.8	10.9
GOLD STONE	8100	4/28	20	6.9	27.4	19.4
GRASSHOPPER	7000	4/28	3	1.4	5.6	5.9
GRAVE CREEK	4300	4/25	9	3.8	15.7	16.3
GRAVE CREEK PILLOW	4300	4/25	SP	.5	10.0	-
GRIFFIN CREEK DIVIDE	5150	4/28	0	.0	6.4	8.6
GRIZZLY PEAK	8400	4/25	43	16.0	26.5	21.1
HALVERSON CREEK (ID)	4850	4/27	36	18.0	-	49.7
HAND CREEK	5030	4/28	0	.0	8.1	-
HAND CREEK PILLOW	5030	4/28	SP	.9	-	-
HAWKINS LAKE	6450	4/26	33	13.1	41.0	35.4
HAWKINS LAKE PILLOW	6450	4/26	SP	14.2	40.7	33.2
HEART LAKE TRAIL	4800	4/28	10	3.3	20.9	19.0
HEBGEN DAM	6550	4/27	2	.6	14.3	6.6
HELL ROARING DIVIDE	5770	5/02	28	12.6	33.2	34.3
HERRIG JUNCTION	4850	4/25	24	9.0	-	-
HIGHWOOD DIVIDE	5650	4/28	0	.0	-	-
HIGHWOOD STATION	4600	4/28	0	.0	3.8	-
HOLBROOK	4530	4/26	2	.4	3.4	1.9
HOOD MEADOW	6600	4/28	17	6.4	17.1	11.6
HOODOO BASIN	6000	4/28	48	20.6	63.8	55.2
HOODOO BASIN PILLOW	6000	4/30	SP	16.2	56.2	55.5
HOODOO CREEK	5900	4/28	42	18.4	56.4	52.2
ICEBERG LAKE #3	5600	4/28	28	12.9	35.9	33.5
INDEPENDENCE	7850	5/02	11	4.0	24.9	19.8
INTERGAARD	6450	4/29	0	.0	14.7	9.1
ISLAND PARK (ID)	6310	5/02	0	.0	17.4	10.2
JAHNKE LAKE TRAIL	7200	4/28	1	.4	16.4	8.3
JOHNSON PARK	6450	4/27	0	.0	2.6	3.5
JOSEPHINE LOWER #9	4900	4/27	11	4.4	17.6	18.9
KEELER CREEK	3300	4/27	0	.0	-	.6
KING CREEK SADDLE	4550	4/27	0	.0	-	-
KING SPRINGS	4150	4/27	0	.0	-	-
KINGS HILL	7500	5/02	29	12.3	19.0	17.1
KIWANIS CAMP	3720	4/30	0	.0	-	-
LAKE CAMP (WY)	7850	5/02	0	.0	8.9	8.4
LAKE CREEK	6100	4/28	0	.0	6.0	2.7
LAKEVIEW CANYON	6930	4/28	0	.0	13.6	12.2
LAKEVIEW RIDGE	7400	4/28	0	.0	12.8	10.0
LEMHI PASS	7480	5/01	0	.0	14.4	-
LEMHI RIDGE	8100	5/01	0	.0	16.6	-
LEMHI RIDGE PILLOW	8100	5/01	SP	1.6	19.6	-
LICK CREEK	6860	4/28	12	4.0	13.4	11.1
LICK CREEK PILLOW	6860	4/28	SP	3.3	12.1	10.7

Average based On 1958-72 periad. A - Aerial observation; water content estimated.
SP - Snow Pillow observatian; water content only.

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average
LITTLE PARK	7400	4/27	30	11.3	22.7	18.3
LOGAN CREEK	4300	4/28	0	.0	1.6	2.7
LOLO PASS (ID)	5230	4/27	23	8.0	36.6	32.3
LOLO PASS PILLOW	5230	4/30	SP	.7	-	-
LONE MOUNTAIN	8880	4/27	27	10.8	32.1	30.6
LOOKOUT (ID)	5250	4/28	23	8.3	38.2	37.7
LOST HORSE	5940	4/27	37	15.0	46.8	34.3
LOST SOUL	4800	4/27	0	.0	11.4	8.9
LOWER TWIN	7900	4/29	22	8.8	31.1	26.0
LUBRECHT FLUME	4800	5/02	0	.0	-	.0
LUBRECHT FLUME PILLOW	4800	5/02	SP	.0	-	.0
LUBRECHT FOREST # 3	5450	5/02	0	.0	2.5	4.0
LUBRECHT FOREST # 4	4650	5/02	0	.0	-	.4
LUBRECHT FOREST # 6	4040	5/02	0	.0	-	.0
LUPINE CREEK (WY)	7300	5/02	0	.0	13.8	7.7
MADISON PLATEAU	7750	4/30	0	.0	31.8	22.4
MADISON PLATEAU PILLOW	7750	4/30	SP	4.6	32.8	23.7
MANY GLACIER	4960	5/02	1	.2	-	-
MANY GLACIER PILLOW	4960	5/02	SP	.5	-	-
MARIAS PASS	5250	4/28	3	.9	14.8	19.3
MAYNARD CREEK	6210	4/27	32	12.1	20.7	21.8
MAYNARD CREEK PILLOW	6210	4/27	SP	8.4	14.9	14.1
MEADOW CREEK PILLOW	4000	5/02	SP	.4	.0	-
MIDDLE MILL CREEK	7850	4/29	11	3.8	21.0	18.4
MILL CREEK	7500	4/28	21	8.2	13.8	16.5
MINERAL CREEK	4000	5/04	0	.0	10.3	14.1
MISSION MOUNTAIN	5050	4/27	0	.0	-	-
MONUMENT PEAK	8800	5/02	47	15.6	41.8	31.6
MOULTON RESERVOIR	6850	4/28	0	.0	-	-
MOUNT ALLEN # 7	5700	4/27	51	21.4	46.1	50.1
MOUNT LOCKHART	6400	5/02	15	5.4	29.8	25.4
MOUNT LOCKHART PILLOW	6400	5/02	SP	4.5	30.0	23.5
MUDD LAKE	7650	4/27	14	5.2	23.8	23.5
NEWTON MOUNTAIN	5600	4/27	33	12.9	-	-
NEZ PERCE CAMP	5580	4/29	10	4.8	14.5	12.5
NEZ PERCE CAMP PILLOW	5580	4/29	SP	4.0	-	-
NEZ PERCE CREEK	6500	4/29	0	.0	5.7	3.5
NEZ PERCE PASS	6570	4/29	5	2.1	21.4	15.6
NOISY BASIN	6040	4/27	89	40.4	48.8	-
NOISY BASIN PILLOW	6040	4/27	SP	35.0	45.2	-
NOISY CREEK	3600	4/27	0	.0	.0	-
NORRIS BASIN (WY)	7500	5/02	0	.0	14.6	8.0
NORTH FK. ELK CREEK	6250	5/02	0	.0	13.4	11.8
NORTH FK. ELK CREEK PILL	6250	5/02	SP	.0	13.4	11.5
NORTH FORK JOCKO	6330	4/27	62	28.7	51.9	51.3
NORTH MEADOW	7500	4/29	3	.6	16.2	11.5
NORTHEAST ENTRANCE	7400	5/02	0	.0	13.0	7.8
NORTHEAST ENTRANCE PILL.	7400	5/01	SP	.0	13.6	8.2
NOTCH	8500	5/01	29	10.8	23.6	18.5
OLD FAITHFUL(WY)	7360	5/02	0	.0	19.2	-

Average based On 1958-72 period. A - Aerial observation; water content estimated.
SP - Snow Pillow observation; water content only.

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average
OPHIR PARK	7150	5/01	14	4.9	26.8	-
PALISADE CREEK	8250	4/27	30	11.6	39.0	34.2
PETERSON MEADOWS	7200	4/27	8	2.7	18.5	11.9
PETERSON MEADOWS PILLOW	7200	4/27	SP	5.1	18.9	-
PICKET PIN LOWER	6200	4/28	0	.0	2.0	-
PICKET PIN MIDDLE	7250	4/28	0	.0	21.4	-
PICKET PIN UPPER	8100	4/28	40	14.0	36.0	-
PICNIC GROUNDS	6200	4/29	0	.0	3.8	2.8
PIEGAN PASS # 6	5500	4/27	41	16.5	39.8	43.1
PIPESTONE PASS	7200	4/29	0	.0	12.1	6.1
POORMAN CREEK	5100	4/28	20	8.8	35.0	33.2
POORMAN CREEK PILLOW	5100	4/28	SP	10.1	34.0	31.4
PORCUPINE	6500	4/29	15	5.8	9.2	8.0
PORCUPINE PILLOW	6500	4/29	SP	.8	-	-
POTOMAGETON PARK	7150	4/27	0	.0	15.9	12.0
PTARMIGAN #8	5800	4/28	41	16.3	43.7	42.0
RED MOUNTAIN	6000	5/02	0	.0	22.3	21.0
ROCK CREEK	5600	4/28	26	10.4	4.8	10.4
ROCK CREEK MEADOWS	8160	4/29	44	14.5	28.8	-
ROCKER PEAK	8000	4/25	19	5.8	23.2	18.0
ROCKER PEAK PILLOW	8000	4/25	SP	10.5	24.8	20.1
ROCKY BOY	4700	5/01	0	.0	.0	1.5
ROCKY BOY PILLOW	4700	5/01	SP	.0	.0	2.9
SACAJAWEA	6550	4/27	20	9.2	18.9	14.3
SADDLE MOUNTAIN	7940	4/28	26	10.2	35.7	28.8
SADDLE MOUNTAIN PILLOW	7940	4/28	SP	11.6	37.9	30.2
SAWTELL MOUNTAIN (ID)	8710	5/02	8	5.5	36.8	38.1
SENTINEL CREEK	8300	4/28	21	8.0	28.9	26.1
SHOWER FALLS	8100	4/28	50	20.3	35.3	28.7
SHOWER FALLS PILLOW	8100	4/28	SP	21.4	36.4	32.2
SILVER RUN	6630	4/26	8	2.7	5.4	-
SILVER RUN PILLOW	6630	4/26	SP	.6	-	-
SKALKAHO SUMMIT	7260	4/29	23	9.4	35.1	28.0
SKALKAHO SUMMIT PILLOW	7260	4/29	SP	5.9	-	-
SLAG-A-MELT LAKE	8750	4/29	23	10.2	40.9	29.1
SLIDE ROCK MOUNTAIN	7100	4/27	22	7.8	26.6	20.0
SMUGGLER MINE	6960	4/29	0	.0	12.3	11.6
SOUTH FORK SHIELDS	8100	4/29	54	23.2	33.2	30.0
SPUR PARK	8000	4/27	44	18.0	26.0	26.0
SPUR PARK PILLOW	8100	4/27	SP	20.2	27.8	25.8
STAHL PEAK	6050	4/26	57	23.2	44.5	44.3
STAHL PEAK PILLOW	6050	4/25	SP	19.3	32.9	-
STEMPLE PASS	6600	5/02	5	1.5	15.0	11.9
STORM LAKE	7780	5/02	0	.0	22.7	17.4
STRYKER BASIN	6180	4/25	49	20.2	-	-
STUART MILL	6500	4/29	0	.0	7.2	6.7
SUCKER CREEK	3960	4/30	0	.0	-	-
SUGARLOAF	7350	4/29	0	.0	-	-
SYLVAN PASS (WY)	7100	5/02	0	.0	18.3	11.1
TARGHEE PASS (ID)	7000	5/02	0	.0	15.9	15.4

Average based On 1958-72 period. A - Aeriol observotion; woter content estimated.
SP - Snow Pillow observotion; woter content only.

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average
TAYLOR ROAD	4080	4/30	0	.0	-	-
TEN MILE LOWER	6600	4/30	0	.0	10.8	6.0
TEN MILE MIDDLE	6800	4/30	6	1.4	19.4	13.8
TEN MILE UPPER	8000	4/30	10	3.3	22.6	17.1
TEPEE CREEK	8000	4/28	15	5.0	21.0	18.0
TEPEE CREEK PILLOW	8000	4/28	SP	3.6	16.7	-
TIMBERLINE CREEK	8850	4/29	33	12.0	24.1	19.8
TRAIL CREEK	7090	5/01	0	.0	14.6	-
TV MOUNTAIN	6800	5/03	10	3.4	25.0	21.9
TWELVEMILE CREEK	5600	4/27	6	2.4	23.3	15.6
TWELVEMILE CREEK PILLOW	5600	4/27	SP	4.5	20.4	14.5
TWENTY-ONE MILE	7150	4/27	4	1.2	21.8	17.6
TWIN LAKES	6510	4/27	48	20.9	57.0	46.8
TWIN LAKES PILLOW	6400	4/27	SP	19.2	54.1	44.8
VALLEY VIEW (ID)	6500	5/02	0	.0	16.0	14.2
WALDRON	5600	5/02	0	.0	3.8	7.5
WALDRON PILLOW	5600	5/02	SP	.0	8.2	10.2
WEASEL DIVIDE	5450	4/27	31	13.7	36.9	37.2
WEST YELLOWSTONE	6700	4/27	1	.1	15.2	7.2
WEST YELLOWSTONE PILLOW	6700	5/01	SP	.0	10.7	6.5
WHISKEY CREEK	6800	4/30	0	.0	26.4	20.3
WHISKEY CREEK PILLOW	6800	4/30	SP	.5	22.6	-
WHITE ELEPHANT (ID)	7700	5/02	0	.0	30.2	-
WHITE MILL	8700	4/29	39	14.4	38.6	30.0
WHITE MILL PILLOW	8700	5/03	SP	11.4	34.7	-
WHITE PINE RIDGE	8850	5/01	0	.0	12.6	5.0
WILLOW CREEK	6500	4/25	2	.5	6.7	-
WOLVERINE (WY)	7650	4/28	0	.0	18.8	-
WRONG CREEK	5700	4/26	0	.0	10.6	11.9
WRONG RIDGE	6800	4/26	21	7.4	23.7	22.2
LATE ARRIVING DATA						
East Boulder S	9250	5/5	29	9.5A	42.5	-
Picket Pin D	9450	5/5	33	11.0A	42.5	-
Placer Basin F	8800	5/5	51	20.5A	34.0	-
Star Lake E	9650	5/5	43	27.0A	54.0	-
Stuart Mountain	7400	5/5	21	6.8	38.3	35.8

Average based On 1958-72 period. A - Aeriol observotion; woter content estimoted.
SP - Snow Pillow observation; water content only.

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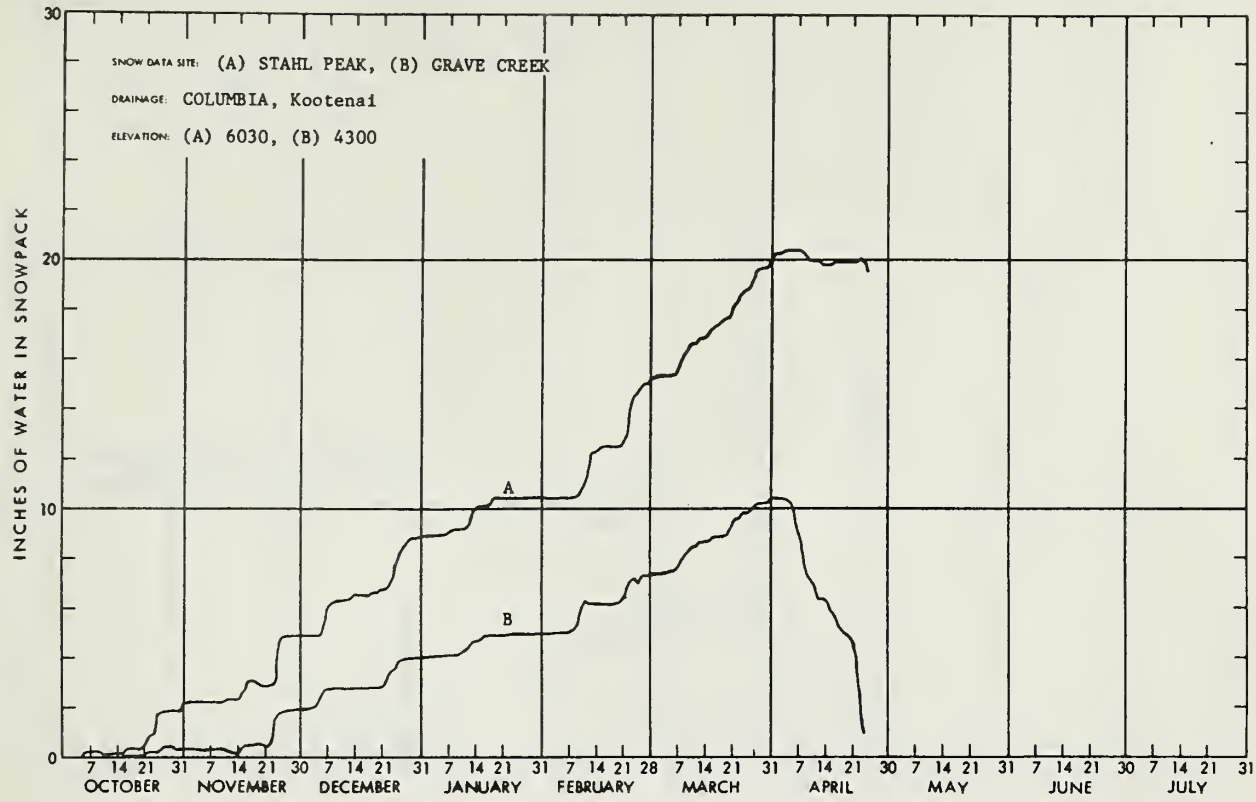

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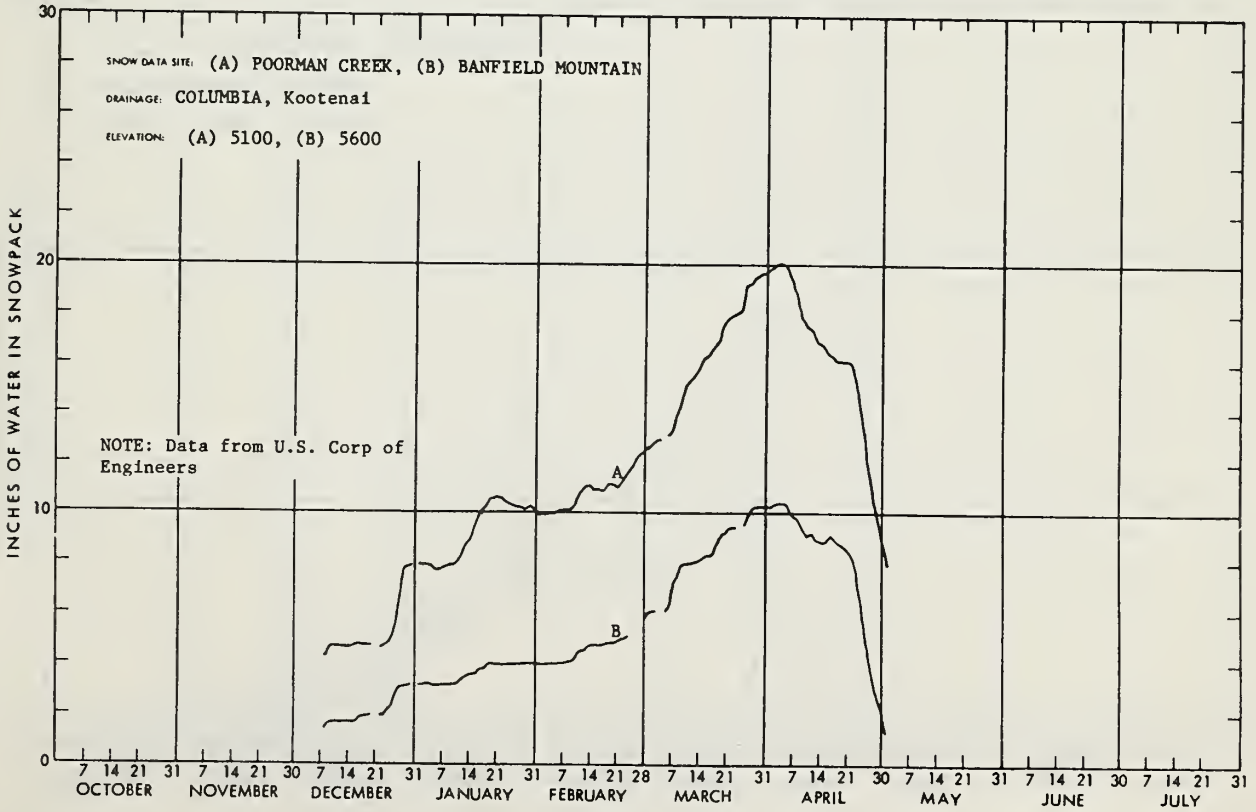

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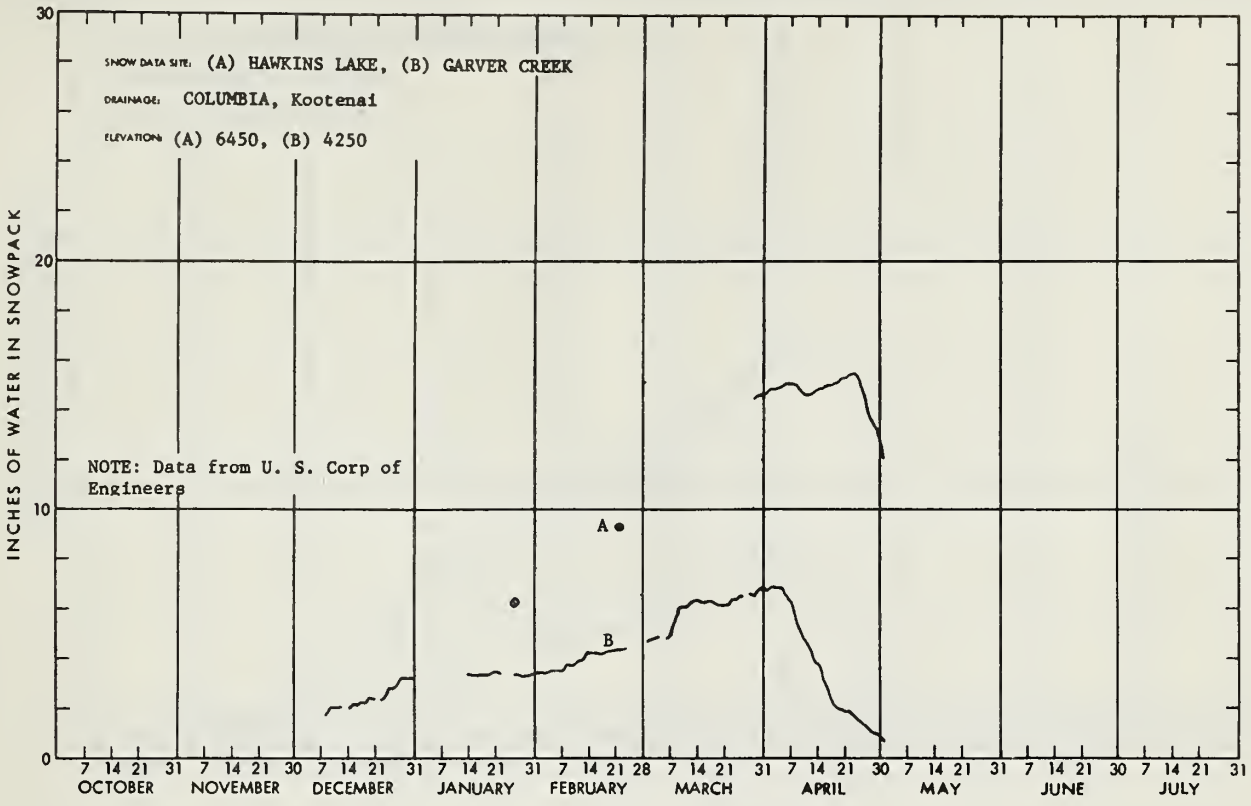

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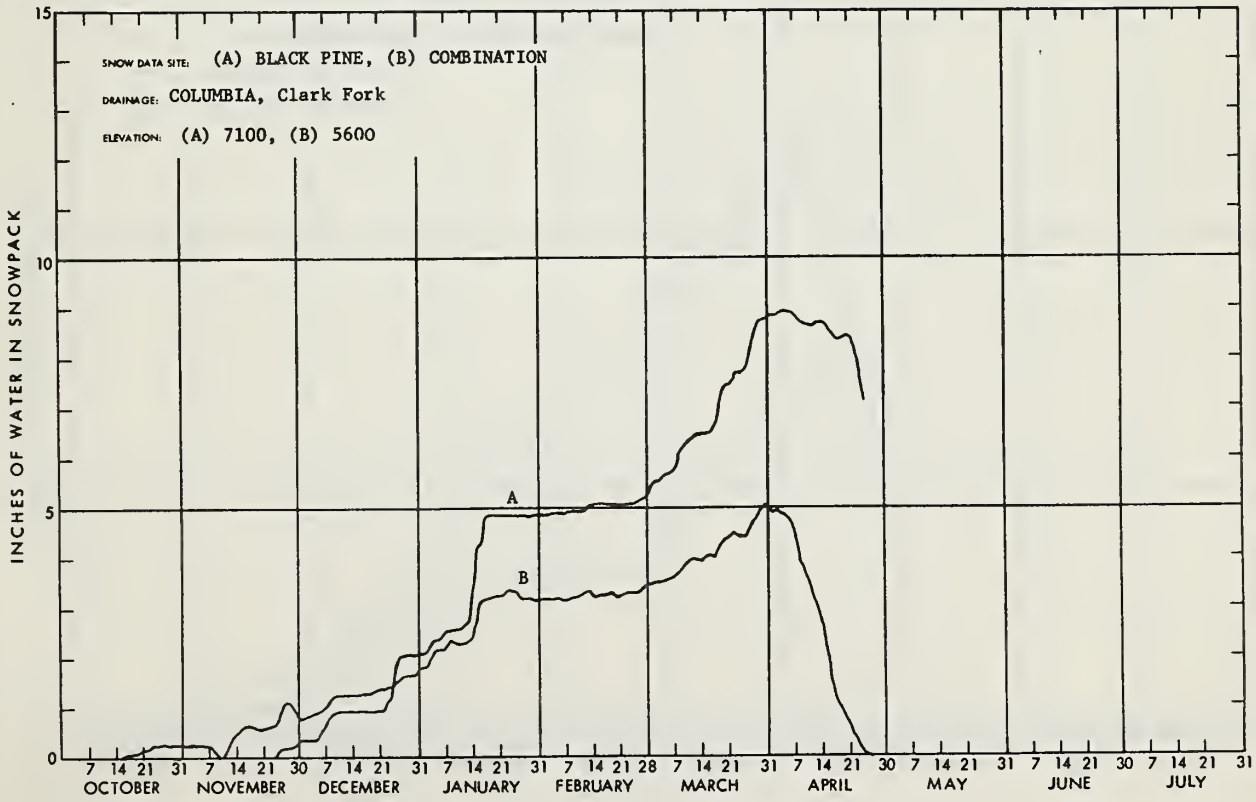

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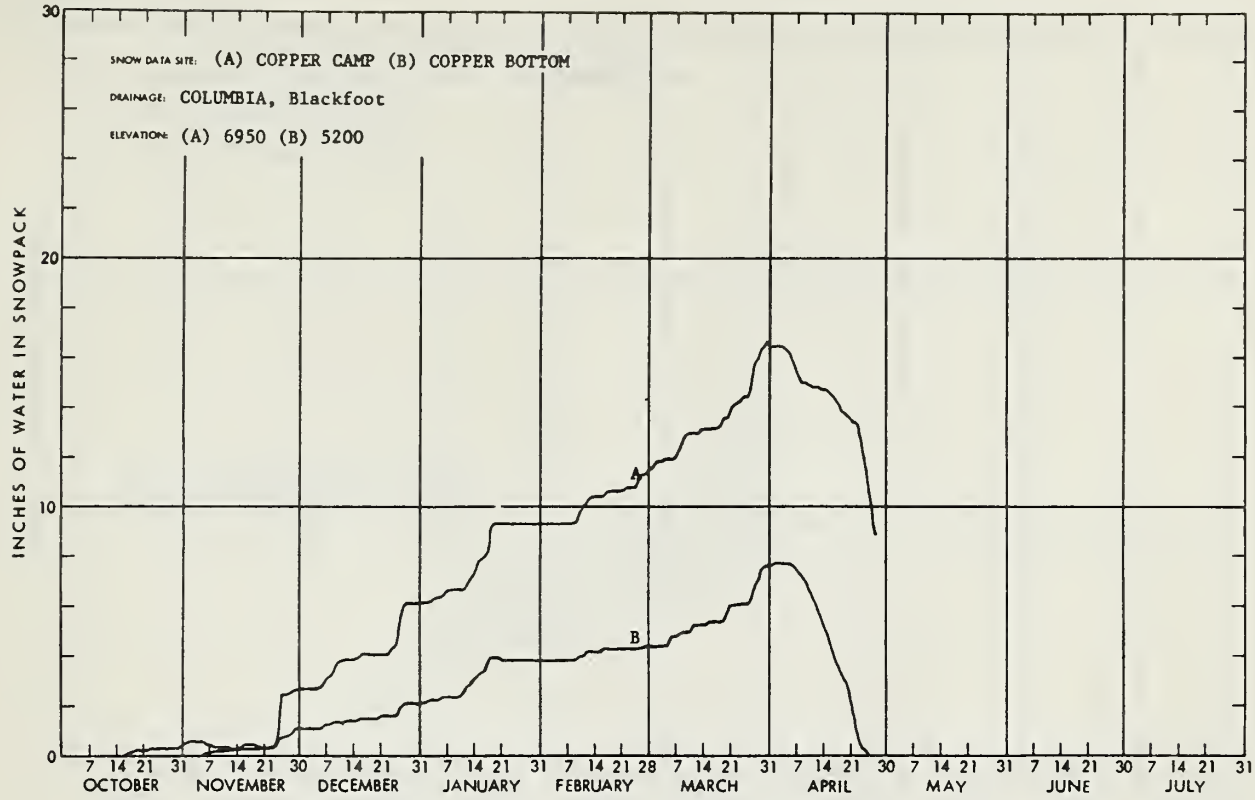

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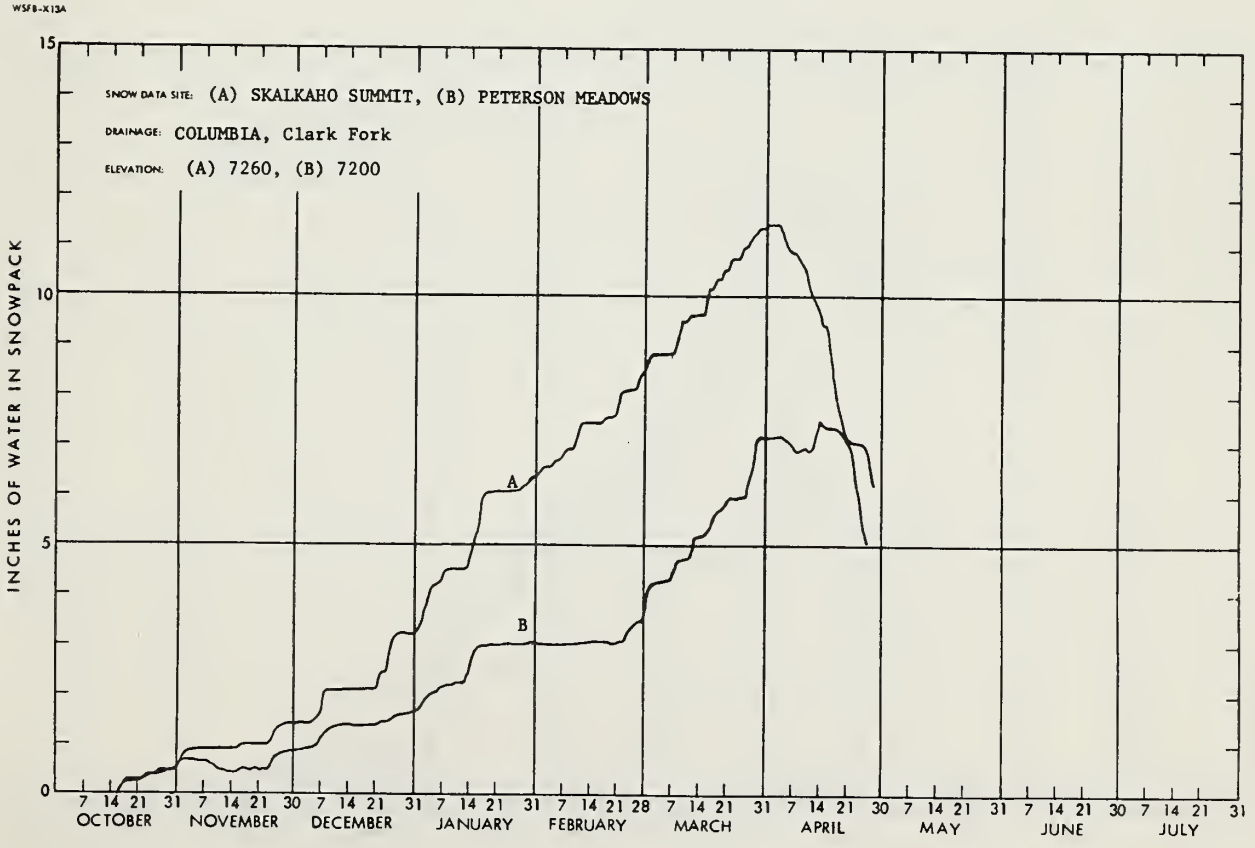

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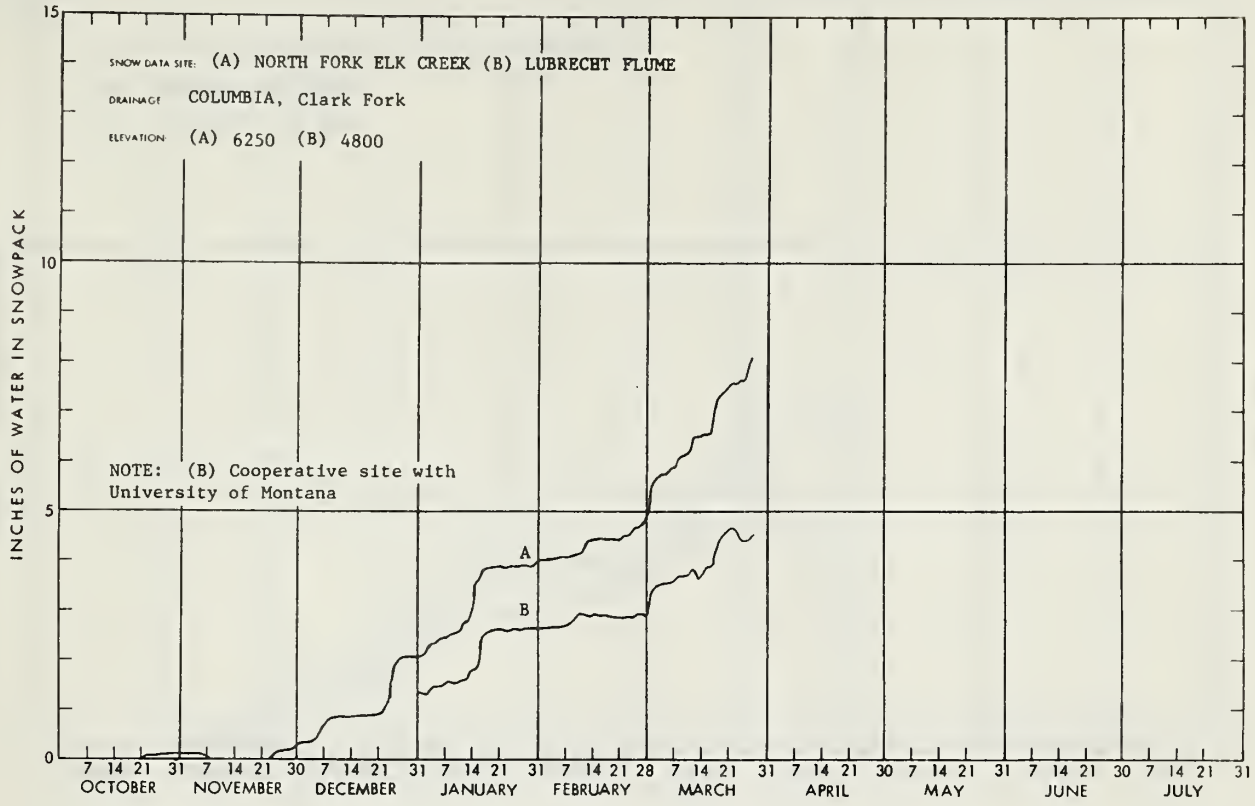

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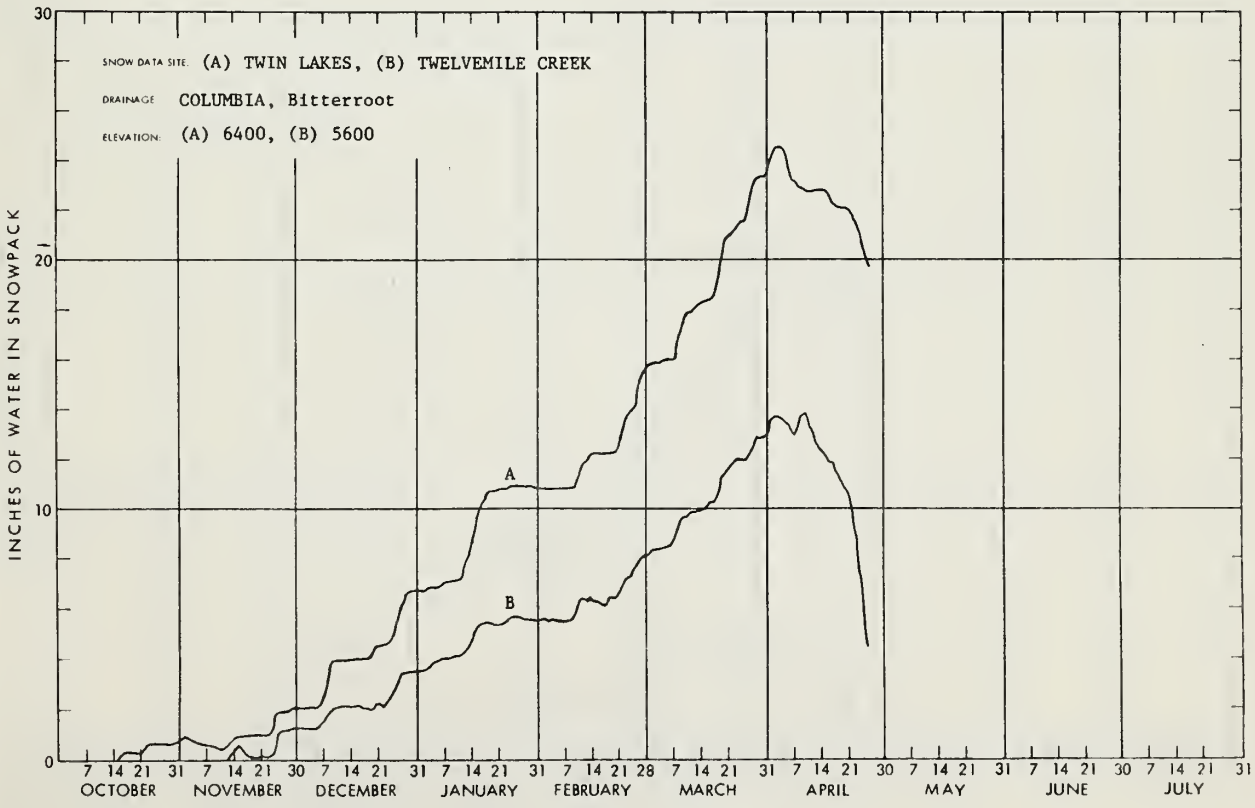

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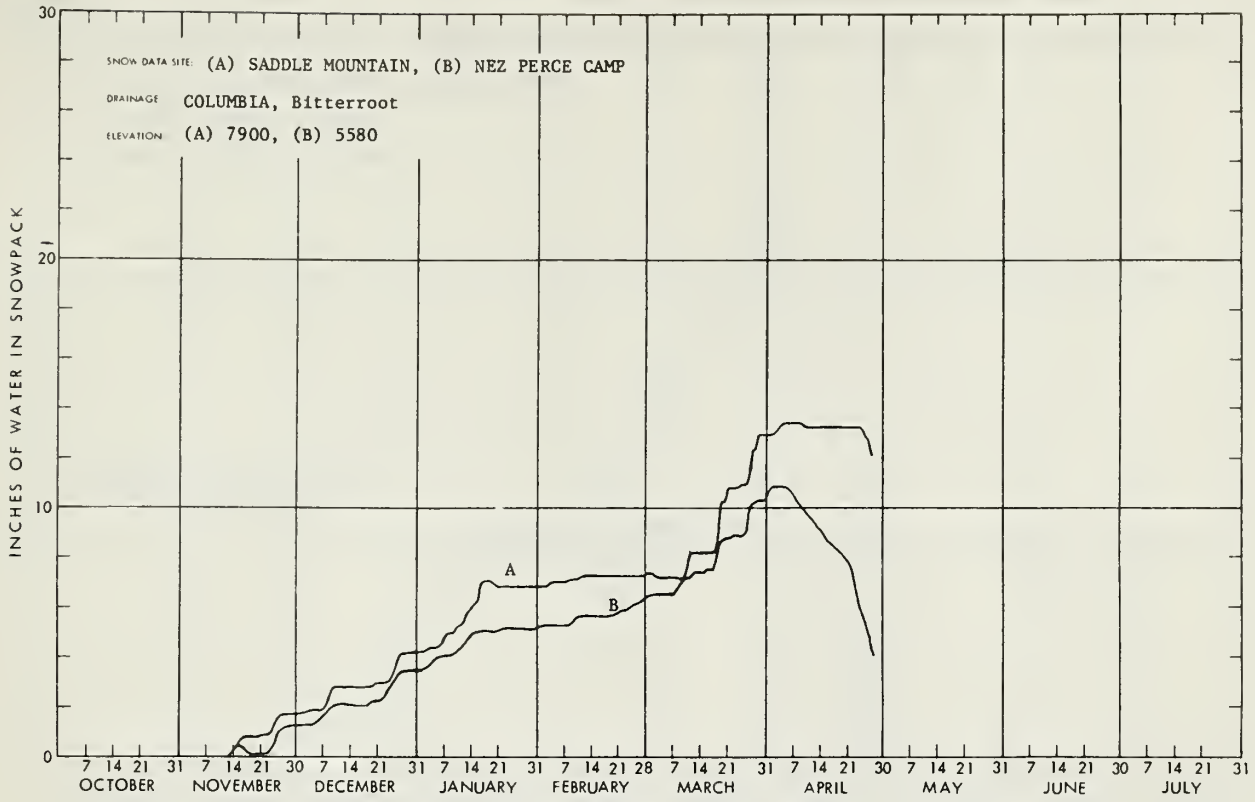

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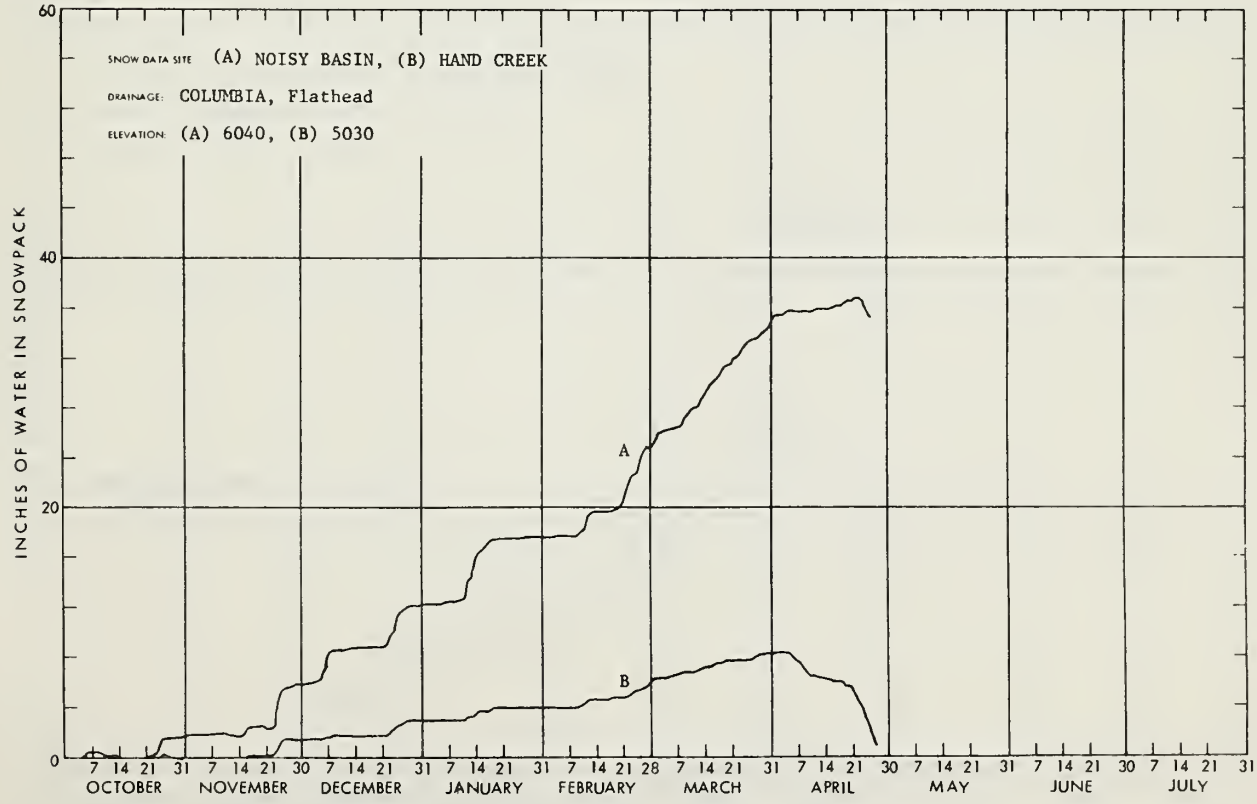

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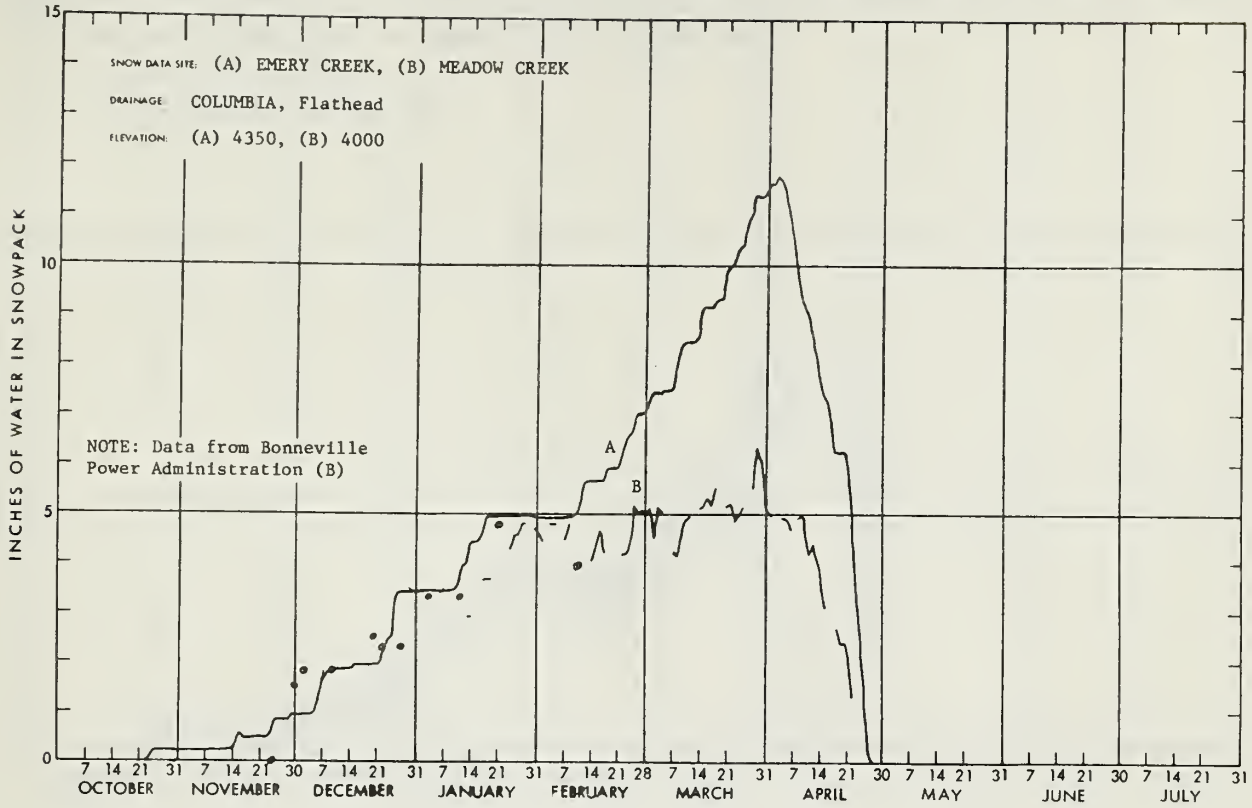

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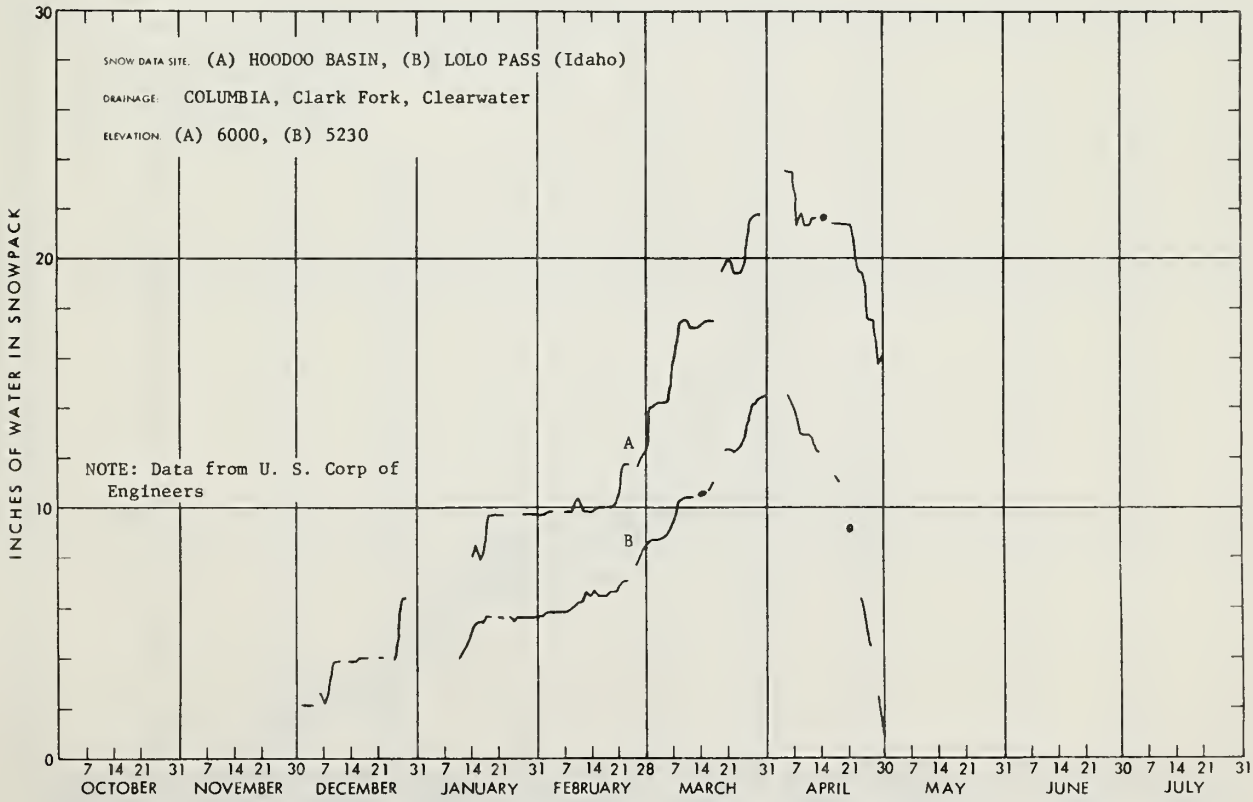
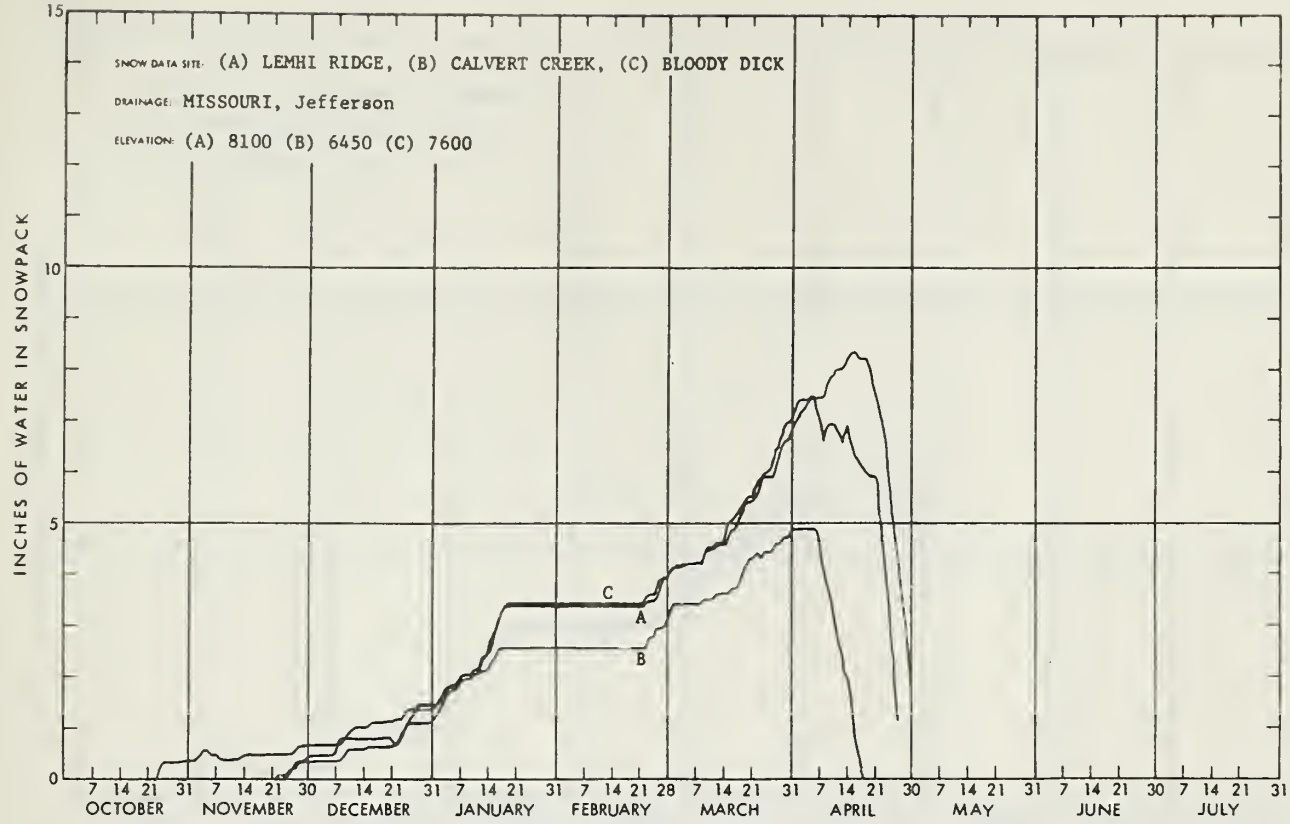
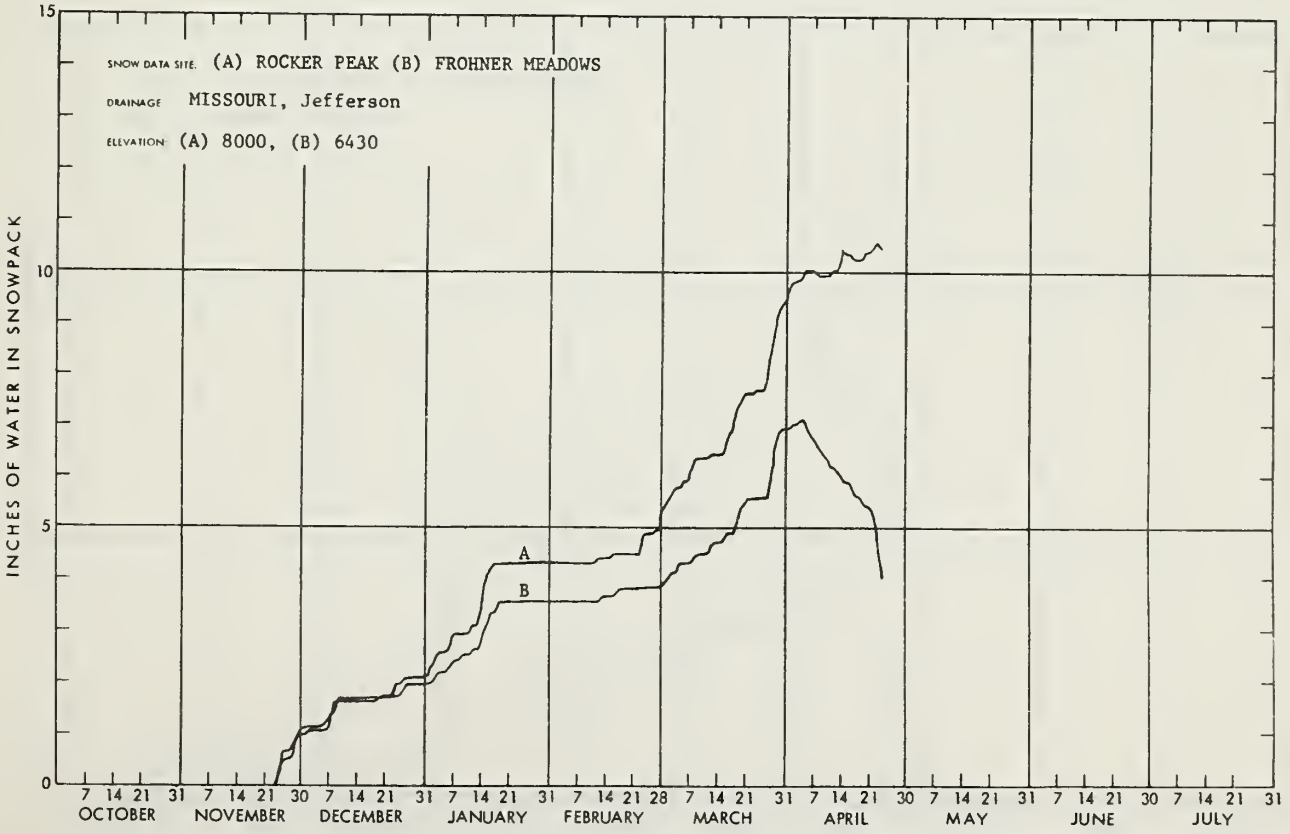
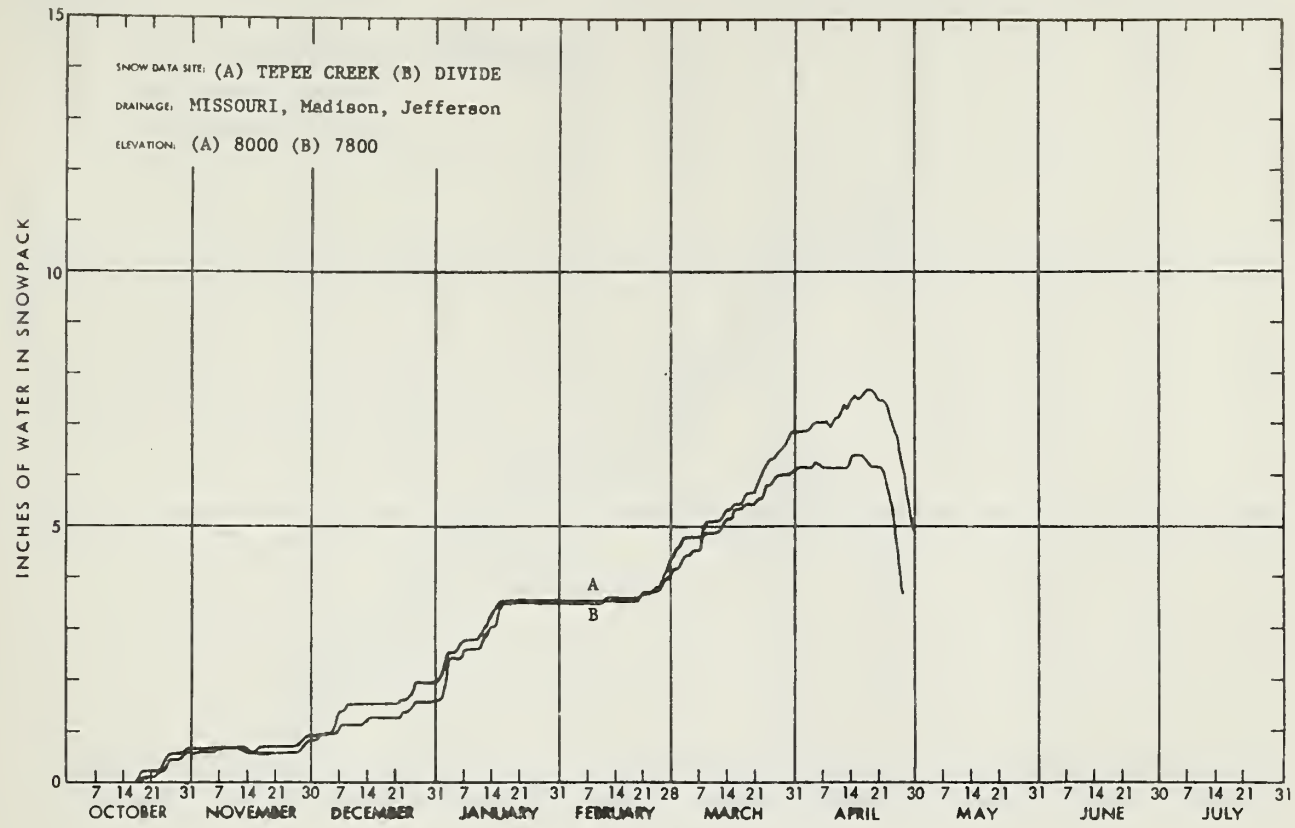



SNOW DATA SITE: (A) LEMHI RIDGE, (B) CALVERT CREEK, (C) BLOODY DICK
DRAINAGE: MISSOURI, Jefferson
ELEVATION: (A) 8100 (B) 6450 (C) 7600
INCHES OF WATER IN SNOWPACK
15
10
5
0
C
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY

WSF8-X13A


SNOW DATA SITE: (A) ROCKER PEAK (B) FROHNER MEADOWS
DRAINAGE: MISSOURI, Jefferson
ELEVATION: (A) 8000, (B) 6430
INCHES OF WATER IN SNOWPACK
15
10
5
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY

WSFB-X13A



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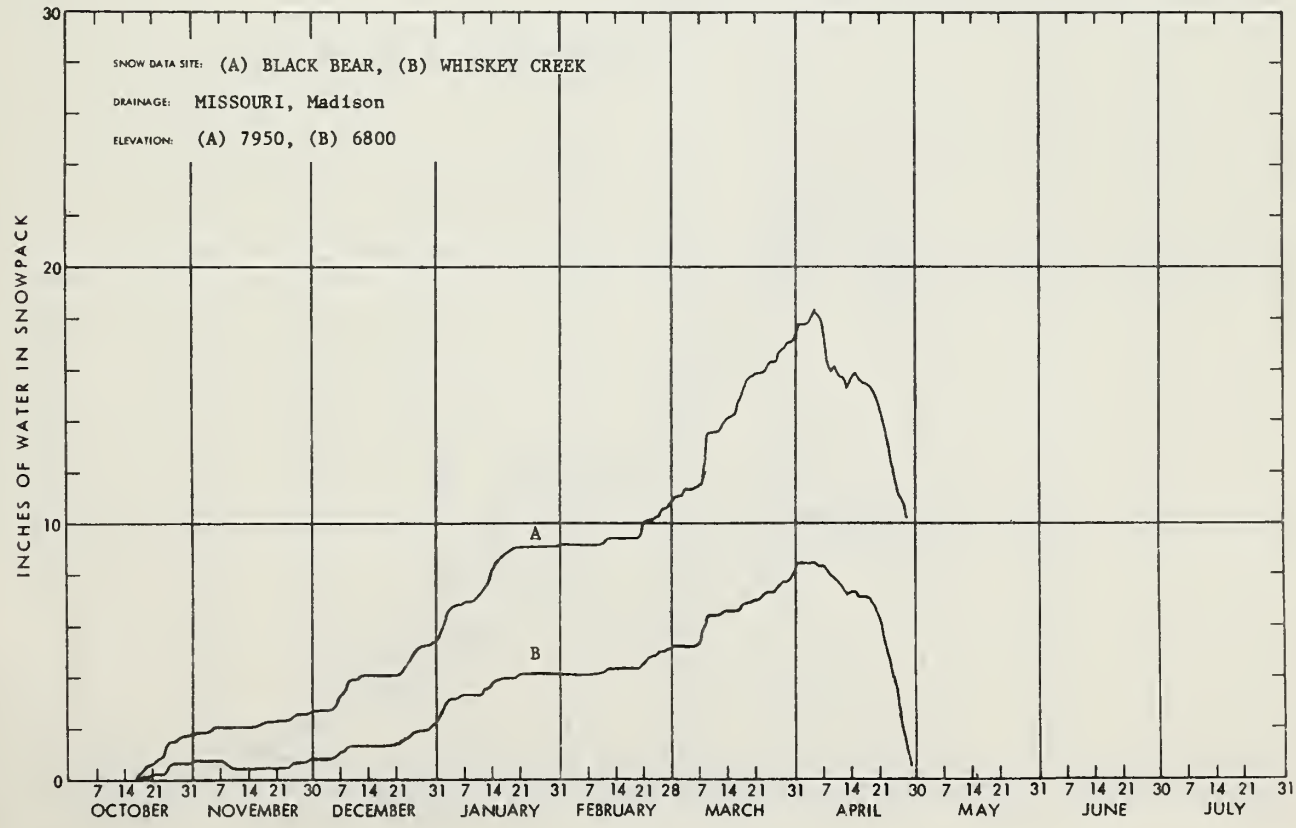

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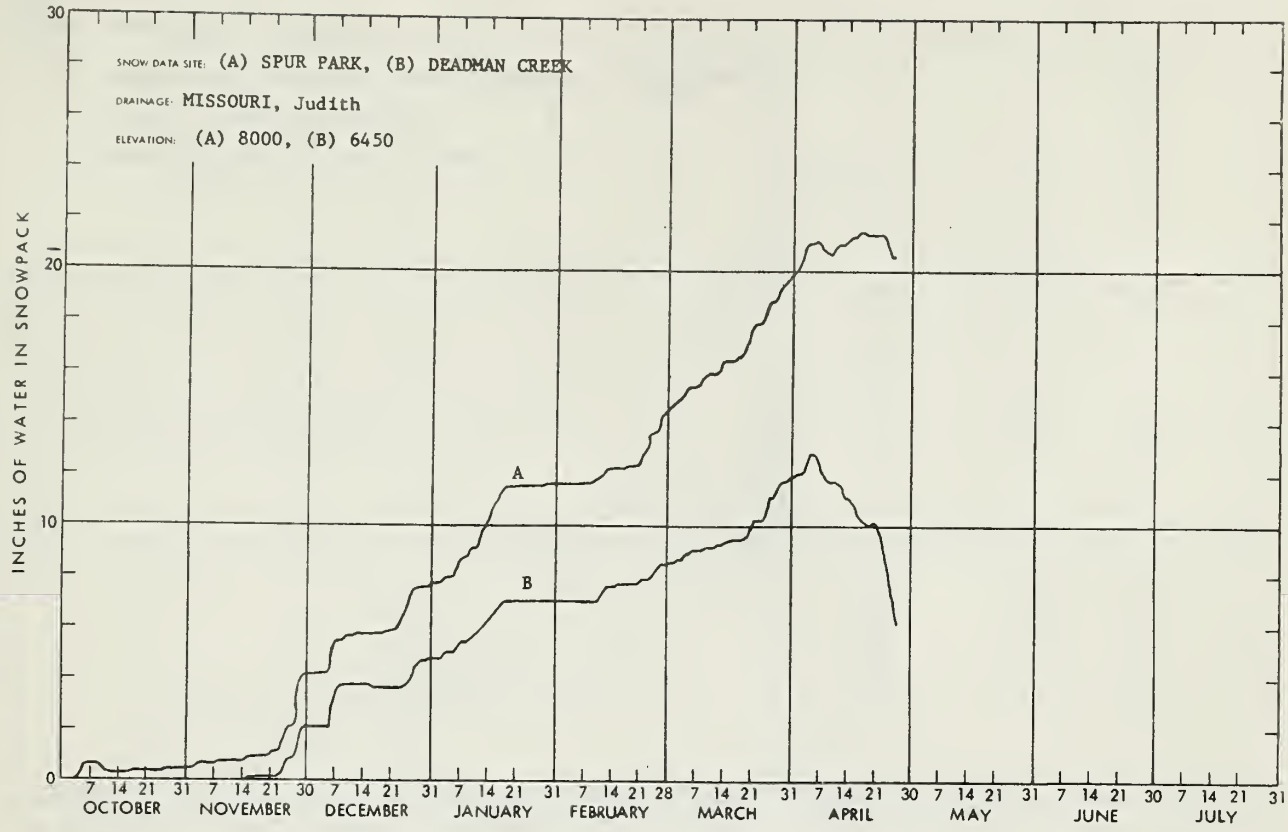

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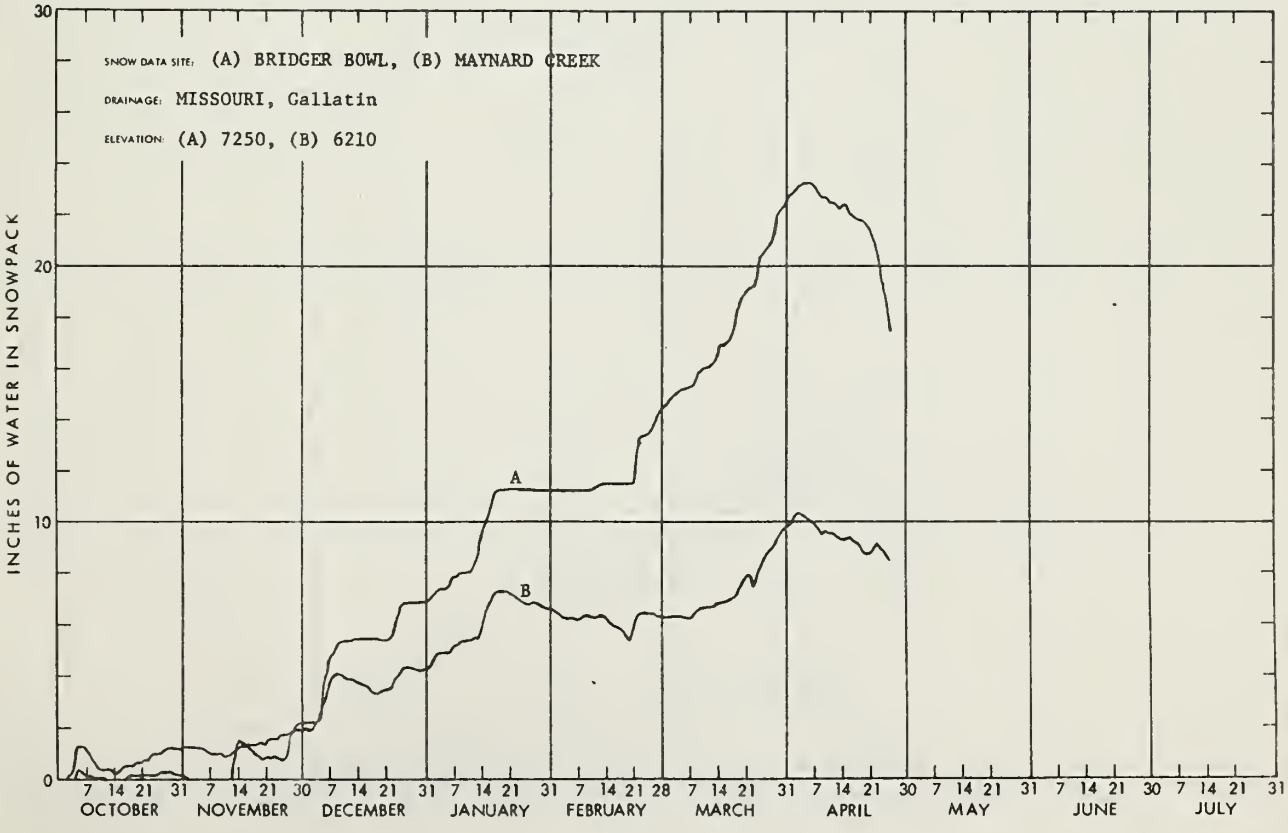

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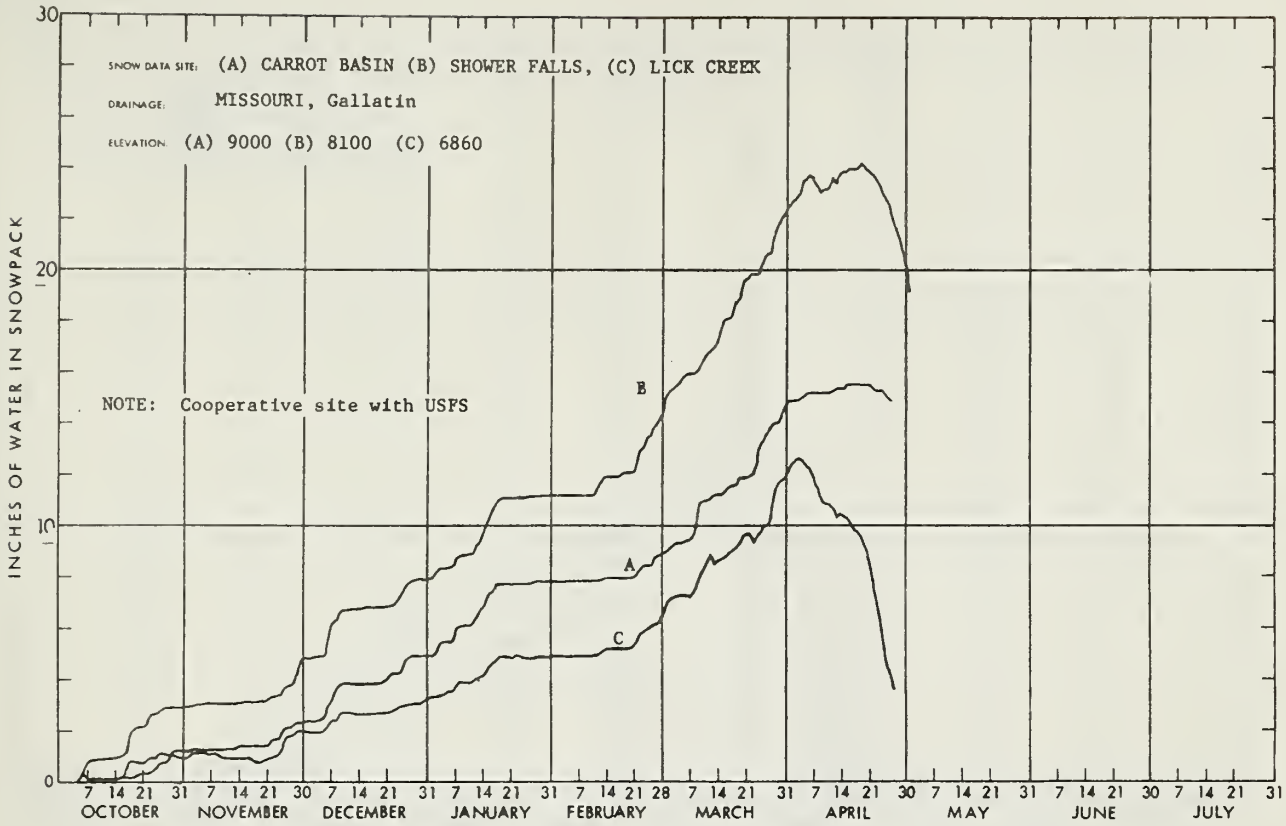

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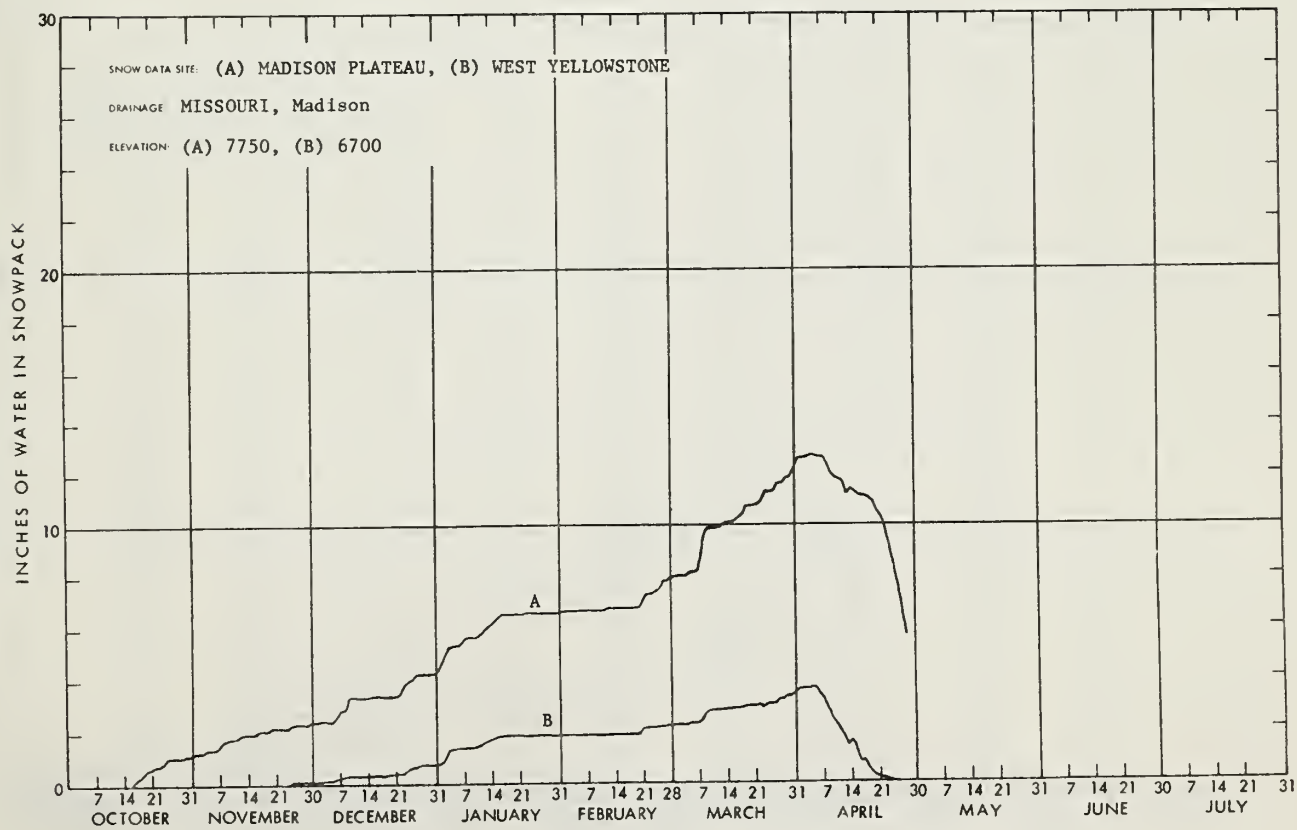

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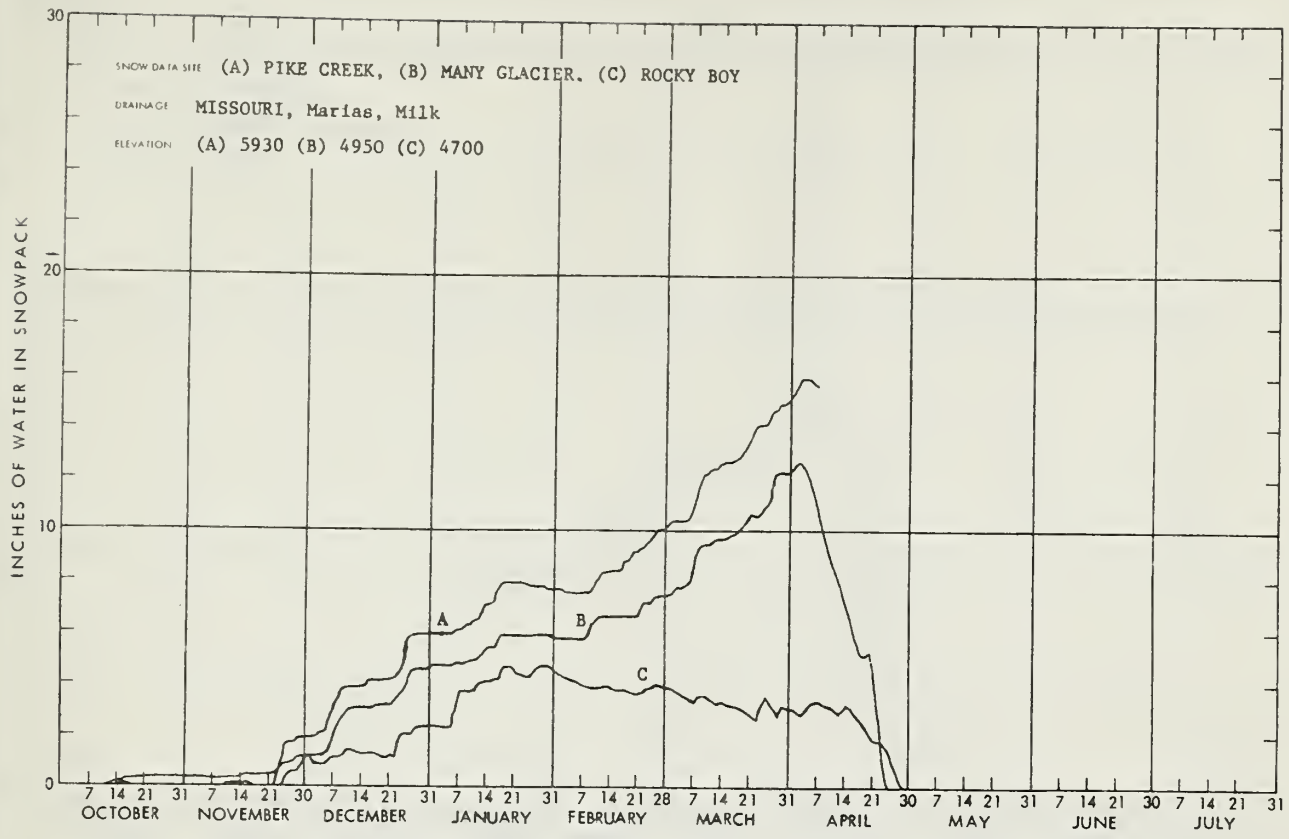

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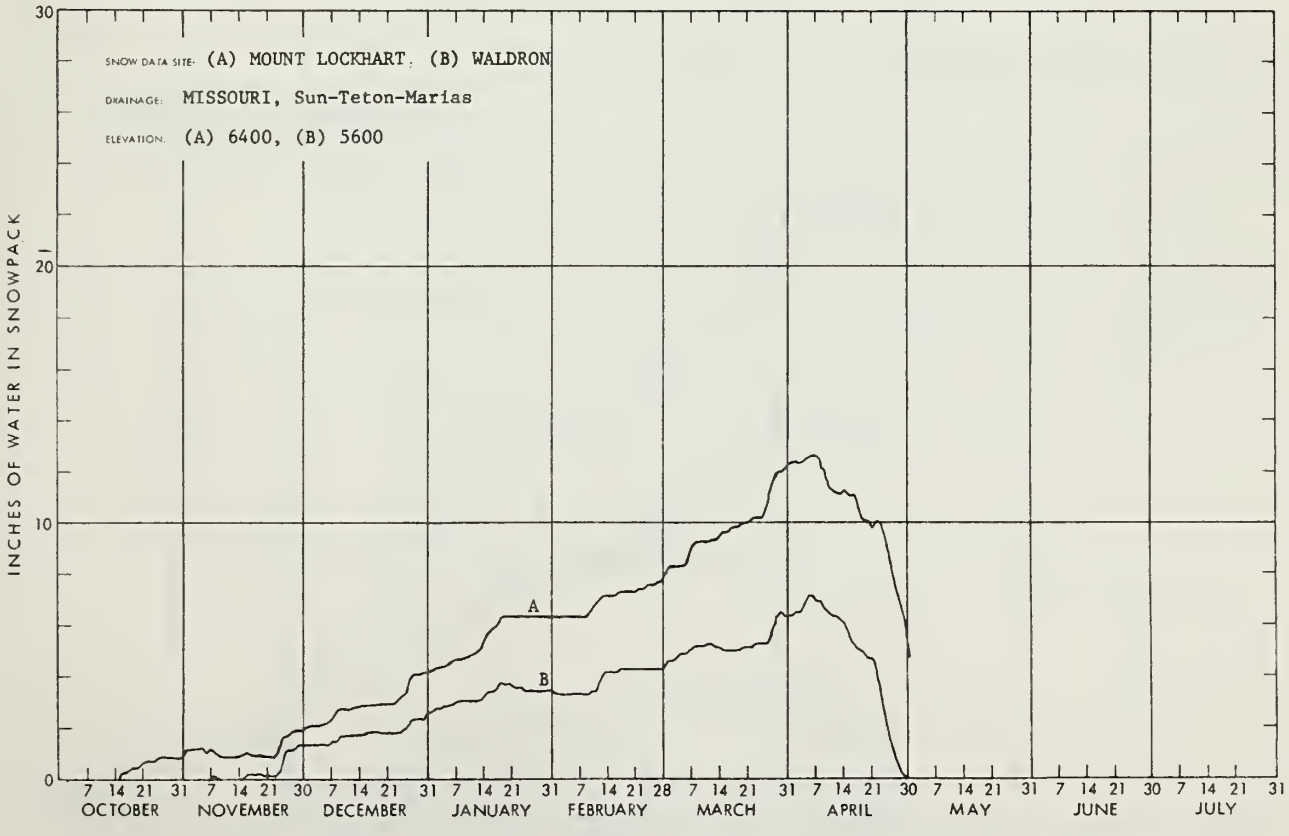

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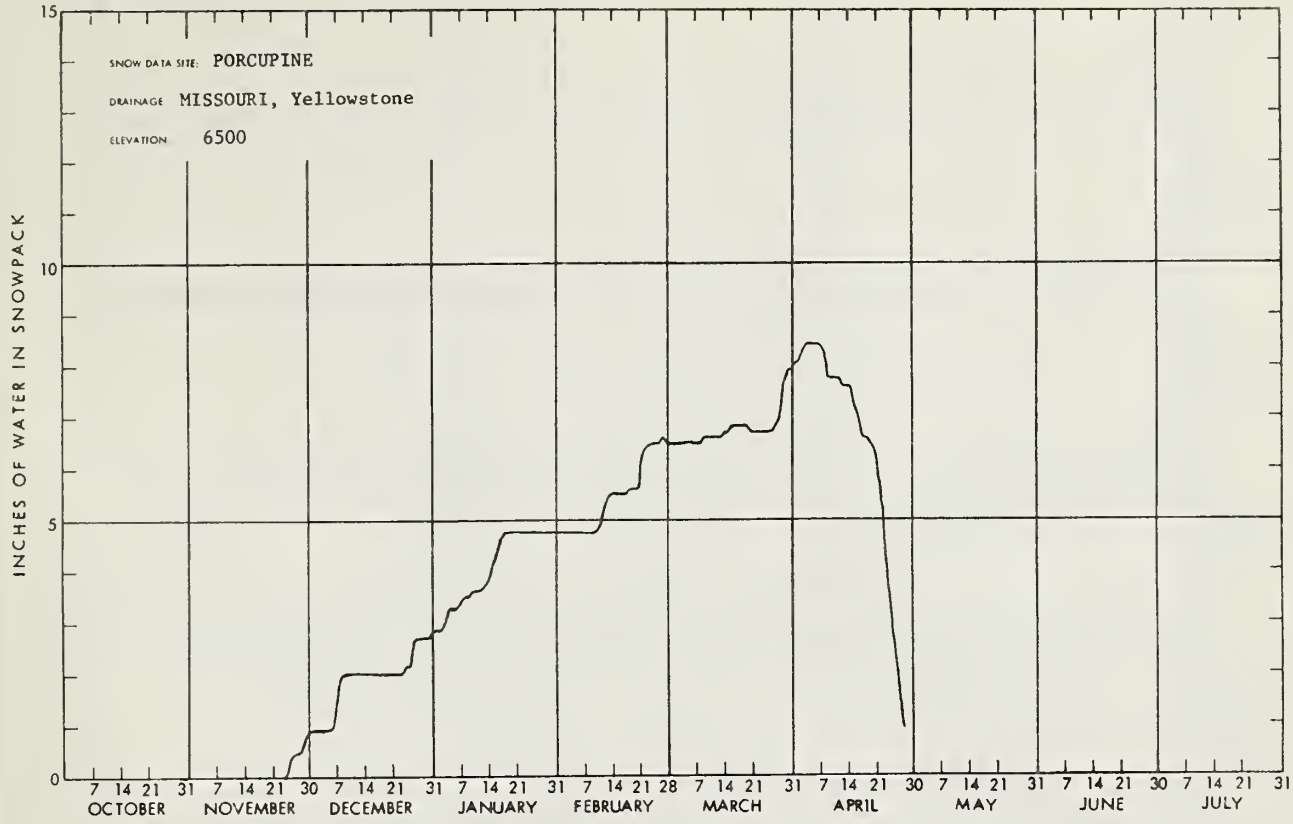

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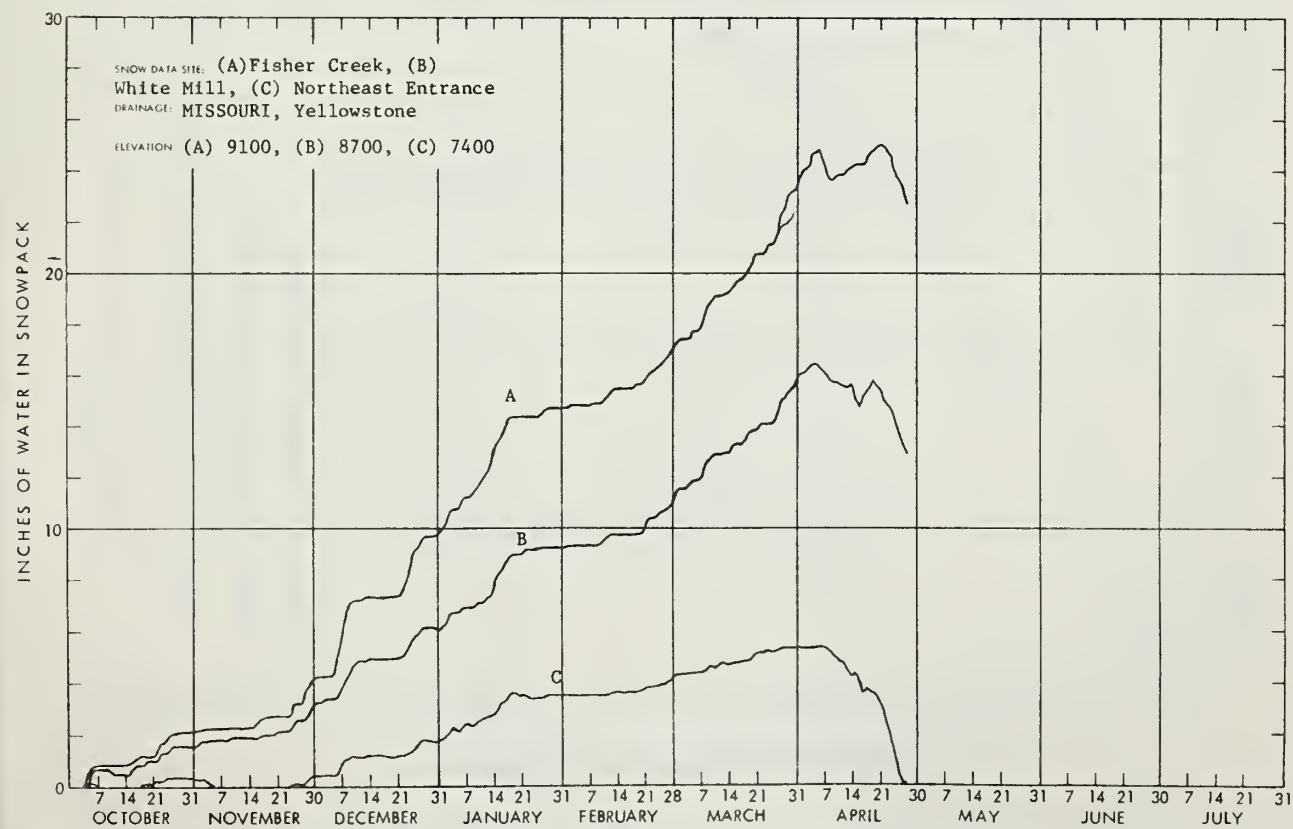

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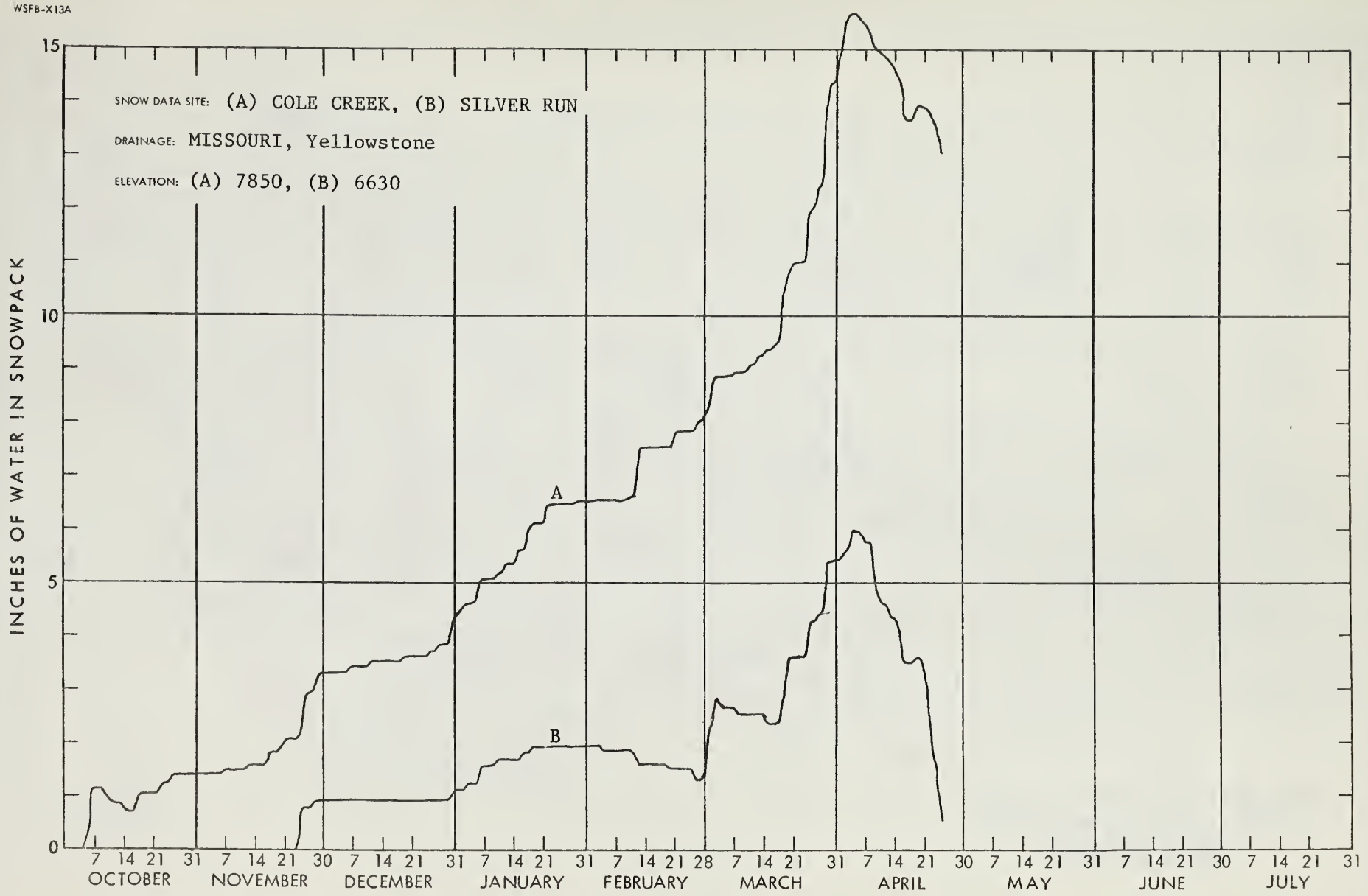
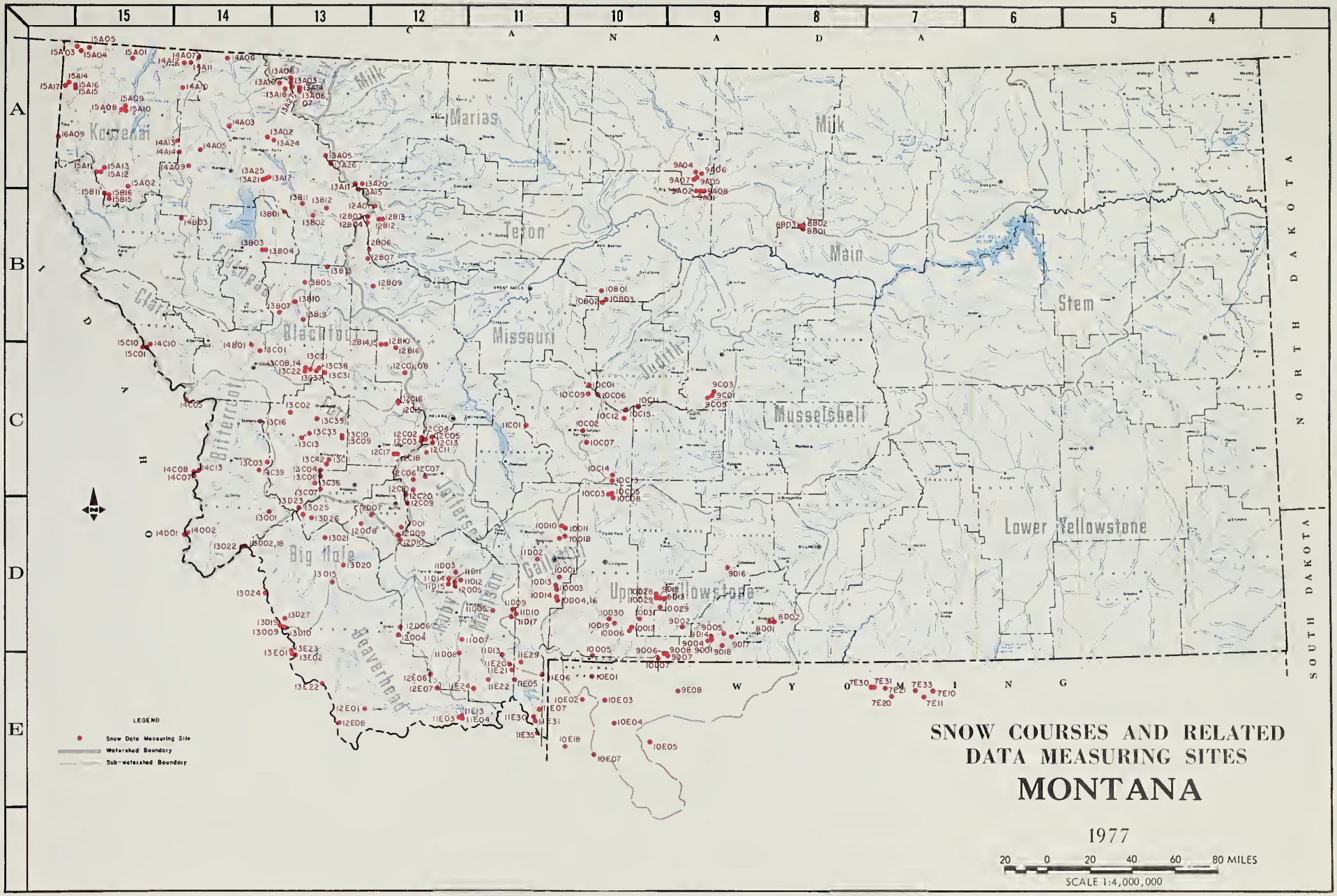

SNOW DATA SITE: (A) COLE CREEK, (B) SILVER RUN
DRAINAGE: MISSOURI, Yellowstone
ELEVATION: (A) 7850, (B) 6630
INCHES OF WATER IN SNOWPACK
15
10
5
0
A
B
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY



SNOW COURSES AND RELATED DATA MEASURING SITES

MONTANA

1977

20 0 20 40 60 80 MILES

SCALE 1:4,000,000

INDEX to MONTANA SNOW COURSES and DATA SITES

SNOW COURSES
COLUMBIA RIVER BASIN

KOOTENAI RIVER

Drainage Basin & Snow Course	Number	Elev.	Sec.	Twp.	Range	Sensors In Addition to Snow Course 1/	Measure Dates 2/	Meas. By 3/
Bald Eagle Peak	15A11	5700	6	27N	31W		3,4,5,5½,6	1
Banfield Mountain	15A09	5600	4	32N	30W	S,P,T,W	2,3,4,5,5½,6	1
Baree Creek	15B11	5500	36	26N	31W		3,4,5,5½	2
Baree Midway	15B16	4600	31	26N	30W		3,4,5,5½	2
Baree Trail	15B15	3800	5	25N	30W	M	3,4,5,5½	2
Brlstow Creek	15A10	3900	2	32N	30W		2,3,4,5,5½,6	1
Brush Creek Timber	14A13	5000	12	30N	26W		3,4,5	1,2
Cedar Grove	15A13	4100	35	28N	31W		2,3,4,5,5½,6	1
Davis Creek	15A04	5400	20	37N	33W		2,3,4,5,5½,6	1
Forth of July	15A15	3450	19	34N	33W		1,2,3,4,5,5½,6	2
Friday Hill	15A16	4620	19	34N	33W		1,2,3,4,5,5½,6	2
Carver Creek	15A05	4250	18	37N	37W	S,P,T,W	2,3,4,5,5½,6	1
Grave Creek	14A11	4300	1	36N	25W	S,P,T	3,4,5,5½,6	1
Hawkins Lake	15A03	6450	18	37N	33W	S,P,T,W	2,3,4,5,5½,6	1
Keeler Creek	16A09	3300	25	30N	35W		3,4,5	1
Lost Soul	15A09	4800	31	33N	29W		2,3,4,5,5½,6	1
Murphy Lake R.S.	14A10	3000	5	34N	25W	M,NSC	Monthly	2
Newton Mountain	15A17	5600	23	34N	34W		1,2,3,4,5,5½,6	2
Poorman Creek	15A12	5100	5	27N	31W	S,P,T,W	2,3,4,5,5½,6	1
Raven	15A02	3050	2	26N	29W	M,NSC	Monthly	2
Red Mountain	15A01	6000	4	36N	29W		3,4,5,5½,6	2
Red Top	15A14	5200	16	34N	34W		1,2,3,4,5,5½,6	2
Stahl Peak	14A12	6050	5	36N	25W	S,P,T	3,4,5,5½,6	1
Weasel Divide	14A07	5450	20	37N	24W		3,4,5,5½,6	1

FLATHEAD RIVER

Basso Peak	16B03	5150	11	24N	25W		3,4,5	5
Beaver Lake	13A11	5900	31	28N	13W		3,4,5	1
Big Creek	13B03	6750	7	22N	18W		3,4,5, 6	1,5
Camp Misery	13A17	6400	30	28N	18W		3,4,5	1,2
Desert Mountain	13A02	5600	24	31N	19W	M	1,2,3,4,5, 6	1,2
Emery Creek	13A24	4350	20	31N	18W	S,P	3,4,5	1
Fatty Creek	13B04	5500	8	22N	18W		3,4,5, 6	1,5
Flattop Mountain	13A19	6300	12	35N	18W	S,P,T	4	1,6
Griffin Creek Divide	14A09	5150	11	28N	25W		3,4,5	5
Gunslight Lake	13B12	6300	30	26N	13W		3,4,5	1
Hand Creek	14A14	5035	6	29N	25W	S,P	3,4,5	1,2
Hell Roaring Divide	14A03	5770	35	32N	22W		1,2,3,4,5,5½,6	2
Holbrook	13B13	4530	18	21N	13W	A	1,2,3,4,5	1
Kishenehn	16A06	3890	14	37N	22W		3,4	6
Logan Creek	16A05	4300	34	30N	24W		3,4,5	1,2
Mineral Creek	13A16	4000	29	35N	17W		3,4,5	6
Noisy Basin	13A25	6040	25	28N	19W	S,P,T	3,4,5	1,2
Noisy Creek	13A21	5600	35	28N	19W		3,4,5	1,2
North Fork Jocko	13B07	6330	3	17N	17W		3,4,5,5½,6	1,5
Spotted Bear Mountain	13B02	7000	23	25N	15W	A	1,2,3,4,5	1
Trinkus Lake	13B01	6100	9	25N	17W		3,4,5	1
Twin Creeks	13B11	3580	25	26N	16W	A	1,2,3,4,5	1
Upper Holland Lake	13B05	6200	28	20N	15W		3,4,5	1

CLARK FORK RIVER

Basin Creek	12D09	7180	31	1N	7W	P	1,2,3,4,5,5½	14
Black Pine	13C13	7100	26	8N	15W	S,P,M,T	1,2,3,4,5,5½,6	1
Combination	13C33	5600	7	8N	14W	S,P,T	1,2,3,4,5,5½,6	1
Copper Bottom	12B16	5200	15	15N	8W	S,P,T	3,4,5	1,2
Copper Camp	12B14	6950	3	15N	9W	S,P,T	3,4,5	1,2
Copper Creek	12B10	5700	1	15N	9W		3,4,5	1,2
Copper Lake Creek	12B15	6100	3	15N	9W		3,4,5	1,2
Cottonwood Creek	12C17	6400	14	7N	8W		3,4	2
Coyote Hill	13B10	4200	12	18N	16W		1,2,3,4,5	1,2
Discovery Basin	13C42	7050	21	6N	13W		1,2,3,4,5,5½	1
Dix Hill	12C15	6400	24	11N	8W	P	1,2,3,4,5	11
El Dorado Mine	13C09	7800	23	8N	12W		3,4	1
Fred Burr Pass	13C11	8000	12	6N	13W		3,4,5	1
Cold Creek Lake	13C10	7200	14	8N	12W		3,4	1
Heart Lake Trail	14C10	4800	11	14N	27W		1,2,3,4,5,5½,6	1
Hoodoo Basin	15C10	6000	17	14N	27W	S,P,T	1,2,3,4,5,5½,6	1
Hoodoo Creek	15C01	5900	16	14N	27W		1,2,3,4,5,5½,6	1
Interguard	13C04	6450	6	5N	13W		2,3,4,5	4
Lower Willow Creek	13C35	4740	3	9N	14W	P,NSC	Monthly	1
Lubracht Forest	13C14	4100	11	13N	15W	M,NSC	Monthly	8
Lubracht Flume	13C38	4680	13	13N	14W	S,P	1,2,3,4,5	8
Lubracht Forest No. 3	13C31	5450	19	13N	14W		1,2,3,4,5	8
Lubracht Forest No. 4	13C22	4650	23	13N	15W		1,2,3,4,5	8
Lubracht Forest No. 6	13C08	4040	11	13N	15W		1,2,3,4,5	8
Lubracht Hydroplot	13C37	4200	22	13N	14W		1,2,3,4,5	8
Moulton Reservoir	12C20	6800	20	4N	7W		1,2,3,4,5,5½	14
North Fork Elk Creek	13C31	6250	20	13N	13W	S,P,T	1,2,3,4,5,5½,6	8
Ophir Park	12C16	7150	13	11N	8W		1,2,3,4,5	11
Petarson Meadows	13C36	7200	2	4N	14W	S,P	1,2,3,4,5	2
Seeley Lake R.S.	13M19	4030	21	17N	15W	M,NSC	Monthly	2
Skelkeho Summit	13C03	7260	30	6N	17W	P,M	3,4,5,5½,6	1
Slide Rock Mountain	13C02	7100	35	10N	16W		3,4,5	1
Storm Lake	13C07	7780	19	4N	13W		1,2,3,4,5	2
Stuart Mill	13C06	4500	19	5N	13W		2,3,4	4
Stuart Mountain	13C01	7400	6	14N	18W		3,4,5,5½,6	8
Sugarloaf	12C18	7350	13	7N	8W		3,4	2
TV Mountain	14B01	6800	33	15N	19W		1,2,3,4,5,5½,6	8

BITTERROOT RIVER

Ambrose	13C16	6480	28	9N	18W		3,4,5	1
Daly Creek	13C19	5780	16	5N	18W	P	3,4,5	1
East Fork R.S.	13D01	5400	16	2N	17W		3,4	1
Gibbons Pass	13D02	7100	4	2S	19W	M	1,2,3,4,5,5½,6	1,3
Lolo Pass	14C05	5250	11	10N	24W	M	1,2,3,4,5	1,2
Lost Horse	14C07	5940	5	4N	23W		3,4,5,5½,6	1
Nez Perce Pass	14D02	5580	19	1S	23W	S,P	3,4,5	1
Nez Perce Pass	14D01	6570	25	1S	24W		3,4,5	1
Saddle Mountain	13D22	7940	5	2S	19W	S,P,T	1,2,3,4,5,5½,6	1
Twelvemile Creek	14C13	5600	34	5N	23W	S,P,T	1,2,3,4,5,5½,6	1
Twin Lakes	14C08	6510	32	5N	23W	S,P,T	1,2,3,4,5,5½,6	1

HUDSON BAY BASIN

ST. MARY RIVER

Iceberg Lake No. 3	13A03	5600	1	35N	17W		5	3,9
Josephine Lower No. 9	13A14	4900	22	35N	16W		5	3,9
Many Glacier	13A27	4960	10	35N	17W	S,P	3,4,5	1,6
Mount Allen No. 7	13A07	5700	27	35N	16W		5	3,9
Piegan Pass No. 6	13A06	5500	27	35N	16W		5	3,9
Ptarmigan No. 8	13A08	5800	36	36N	17W		5	3,9

MISSOURI RIVER BASIN

BEAVERHEAD RIVER

Beagle Springs	12E08	8850	6	16S	11W	P	3,4,5	1
Blondy Dick	13D10	7600	12	8S	16W	S,P	3,4,5	1
Cartar Creek	12D04	7400	22	8S	7W		2,3,4	11
Christensean Ranch	12D06	6000	34	7S	7W	P,NSC	Monthly	11
Ond Creek Lake	13E22	8400	24	12S	13W		3,4,5	1
Elk Horn Springs	13D15	7800	21	4S	12W		3,4,5	3
Gold Stone	13D09	8100	11	8S	16W		3,4,5	1
Lakeview	11E13	6700	23	14S	2W	M,NSC	Monthly	10
Lakeview Canyon	11E04	6930	26	14S	2W		1,2,3,4,5	10
Lakeview Ridge	11E03	7400	27	14S	2W		1,2,3,4,5	10
Lemhi Pass	13E01	7680	9	10S	15W		3,4,5	1
Lemhi Ridge	13E23	8100	4	10S	15W	S,P,T	3,4,5	1
Trail Creek	13E02	7090	15	10S	15W		3,4,5	1
White Pine Ridge	12E01	8850	18	14S	9W		3,4,5	1

RUBY RIVER

Branham Lakes	11D14	8850	5	4S	3W		3,4,5	1,12
Clover Meadow	11D08	8600	28	9S	2W		3,4,5	1
Divide	12E07	7800	14	12S	4W	S,P,T	3,4,5	1
Middle Mill Creek	11D15	7850	17	4S	3W		3,4,5	1,12
Notch	12E06	8500	18	11S	4W		3,4,5	1
Smuggler Mine	12D05	6960	24	4S	4W		3,4,5	1,12

BIG HOLE RIVER

Abundance Lake	13D20	8800	7	3S	11W		3,4,5	1
Bull Mountain	12D08	7500	3	1N	10W		1,2,3,4,5	2
Calvert Creek	13D26	6450	34	2N	14W	S,P,T	3,4,5	1
Darkhorse Lake	13D19	8600	4	8S	16W		3,4,5	1
Pleecer Ridge	12D07	6600	18	2N	9W		1,2,3,4,5	2
Foolhen	13D21	8280	11	1S	13W		3,4,5	1
Jahnke Lake Trail	13D27	7200	24	7S	16W		3,4,5	1
Mudd Lake	13D25	7650	24	2N	15W		3,4,5	1
Palisade Creek	13D23	8250	3	2N	15W		4,5	1
Slag-A-Melt Lake	13D24	8750	29	5S	17W		3,4,5	1

JEFFERSON RIVER

Berry Meadow	12C07	7000	8	5N	5W		3,4	1
Copper Mountain	12C09	7700	13	3N	7W		2,3,4,5,5½	4
Fish Creek	12D10	8000	5	1S	7W		1,2,3,4,5,5½	14
Nez Perce Creek	12C10	6500	16	4N	6W		2,3,4,5	4
Picnic Crouada	12C06	6500	21	5N	6W		2,3,4	4
Pipestone Pass	12D01	7200	10	1N	7W		1,2,3,4,5	4
Rocker Peak	12C11	8000	17	7N	5W	S,P,T	1,2,3,4,5	1

MADISON RIVER

Black Bear	11E35	7950	27	15S	5E	S,P,T	1,2,3,4,5,5½,6	1,2
Call Road	11D07	8050	21	8S	2W		3,4,5	1
Four Mile	11D12	6900	5	4S	2W	P	3,4,5	1
Hebgan Dam	11E05	6550	22	11S	3E		1,2,3,4,5	3
Jack Creek	11D05	7500	13	6S	1E		3,4	1
Lake Creek	11E22	6100	27	11S	1E		2,3,4,5	1,2
Lower Twin	11D11	7900	12	4S	3W	P	3,4,5	1
Madison Plateau	11E31	7750	28	14S	5E	S,P	1,2,3,4,5,5½,6	1,2
North Meadow	11D03	7500	24	3S	3W		3,4,5	1
Potomageton Park	11E21	7150	33	10S	3E		3,4,5	2
Sentinel Creek	11E20	8300	17	10S	3E		3,4,5	2
Tepee Creek	11E24	8000	15	12S	1W	S,P,T	2,3,4,5	1,2
West Yellowstone	11E07	6700	34	13S	5E	S,M	1,2,3,4,5	1,3,6
Whiskey Creek	11E30	6800	19	14S	5E	S,P,T	1,2,3,4,5,5½,6	2

GALLATIN RIVER

Arch Palls	10D14	7350	3	5S	6E		1,2,3,4,5,5½,6	1
Bear Basin	11D09	8150	9	6S	3E		3,4,5	1
Big Sky	11D17	7700	30	6S	3E	P	1,2,3,4,5	1
Bridger Bowl	10D15	7250	25	1N	6E	S,P,M	1,2,3,4,5,5½,6	1
Corrot Basin	11E29	9000	18	10S	4E	S	1,2,3,4,5	2
College Site	11D02	4856	18	2S	5E	M,NSC	Weekly	7
Oewila Slide	10D04	8100	14	5S	6E		1,2,3,4,5,5½,6	1
Nond Meadow	10D03	6600	22	4S	6E		1,2,3,4,5,5½,6	1
Lick Creek	10D13	6860	10	4S	6E	S,P,M	1,2,3,4,5,5½,6	1
Little Park	11D10	7400	22	6S	3E		3,4,5	1
Maynard Creek	10D18	6210	19	1N	7E	S,P	1,2,3,4,5,5½,6	1
New World	10001	6700	24	3S	6E		2,3,4	1
Shower Palls	10D16	8100	14	5S	6E	S,P,T	1,2,3,4,5,5½,6	1
Taylor Peaks	11D13	8500	26	9S	2E	S,P	4	1
Twenty-One Mile	11E06	7150	1	11S	5E	M	1,2,3,4,5	3

MISSOURI RIVER MAIN STEM

Big Coulas	10B03	5100	10	19N	9E		1,2,3,4,5	1,12
Boulder Mountain	11C01	7950	1	9N	3E		3,4,5	1
Chessman Reservoir	12C05	6200	2	8N	5W		1,2,3,4,5	3
Deadman Creek	10C09	6450	23	12N	8E	S,P,T	1,2,3,4,5,5½,6	1
Elk Peak	10C07	8000	10	8N	8E		3,4,5	1
Prohner Meadows	12C13	6480	23	8N	5W	S,P,T	1,2,3,4,5	1
Grasshoppar	10C02	7000	19	9N	8E		3,4,5	1
Highwood Divide	10B02	5650	16	19N	9E	P	1,2,3,4,5	1,12
Highwood Station	10B01	4600	20	20N	9E	p	1,2,3,4,5	1,12
Kings Hill	10C01	7500	34	13N	8E	M	3,4,5,5½,6	1,3
Stemple Pass	12C01	6600	16	13N	7W	M	3,4,5	1,3
Ten Mile Lower	12C02	6600	12	8N	6W		1,2,3,4,5	3
Ten Mile Middle	12C03	6800	13	8N	6W		1,2,3,4,5	3
Ten Mile Upper	12C04	8000	19	8N	5W		1,2,3,4,5	3

TETON-MARIAS-SUN RIVERS

Badger Pass	13A15	6900	4	27N	11W	A	1,2,3,4,5	1
Blue Lake	13A20	5900	25	28N	11W	A	1,2,3,4,5	1
Cabin Creek	12B06	5200	33	23N	10W		3,4,5	2
Five-Bull	12B09	5700	25	20N	10W		3,4,5	1
Fralght Creek	12A01	6000	13	26N	10W		3,4,5	1
Goat Mountain	12B07	7000	20	22N	10W		3,4	2,3
Marias Pass	13A05	5250	31	30N	13W	M	1,2,3,4,5	3,6
Mount Lockhart	12B12	6400	18	25N	9W	S,P,T	1,2,3,4,5,5½,6	2
Pike Creek	13A26	5930	5	29N	13W	S,P	3,4,5	1
Waldron	12B13	5600	17	25N	9W	S,P,T	1,2,3,4,5,5½,6	2
Wrong Creek	12B04	5700	32	25N	10W		3,4,5	2
Wrong Ridge	12B03	6800	17	25N	10W		3,4,5	2

JUDITH RIVER

Big Snowy	9C05	7150	25	12N	17E		3,4,5	1
Crystal Lake	9C01	6100	19	12N	18E	P	3,4,5	1
Rock Creek	9C03	5600	7	12N	18E		3,4,5	1
Spur Park	10C06	8100	20	12N	9E	S,P,T	1,2,3,4,5,5½,6	1

MUSSELSHELL RIVER

Daisy Peak	10C15	7600	34	11N	11E		3,4,5	2
Eagle Creek	10C13	7000	2	5N	10E		3,4,5	2
Forest Lake	10C14	6400	26	6N	10E		3,4,5	2
Haymaker	10C11	8050	16	11N	12E		3,4,5	2
Johnson Park	10C12	6450	16	10N	11E		3,4,5	2

MILK RIVER

Beaver Creek	9A05	3950	21	29N	16E	M,NSC	Monthly	1,7
Bear Paw Ski Area	9A02	5200	21	28N	16E	P	1,2,3,4,5	1,7
Boxelder Creek	9A08	5100	24	28N	16E	P	1,2,3,4,5	1,7
King Creek Saddle	8B02	4550	10	25N	24E		1,2,3,4,5	5
King Springs	8B03	4150	9	25N	24E		1,2,3,4,5	5
Kivanis Camp	9A04	3720	9	29N	16E	P,W,T	1,2,3,4,5	1,7
Mission Mountain	8B01	5050	15	25N	24E	P	1,2,3,4,5	5
Rocky Boy	9A01	4700	22	28N	16E	S,P,M	1,2,3,4,5	1,7
Sucker Creek	9A06	3960	11	29N	16E	P	1,2,3,4,5	1,7
Taylor Road	9A07	4080	19	29N	16E	P	1,2,3,4,5	1,7

UPPER YELLOWSTONE RIVER

Bald Ridge	10C05	7500	11	4N	10E		3,4,5	1
Battle Ridge	10D11	6020	32	2N	7E	M	1,2,3,4,5	1
Bozo Sota	9D14	7750	35	7S	18E		3,4,5	1
Box Canyon	10D31	6700	28	6S	12E		3,4,5	1
Brass Donkey	10D29	9050	6	5S	14E	P,NSC	Seasonally	11
Camp Senia	9D01	7890	2	8S	18E		3,4,5,5½,6	1
Cole Creek	9D16	7850	26	2S	19E	S,P	1,2,3,4,5,5½,6	1,2
Colley Creek	10D30	6300	34	6S	10E	P	3,4,5	1
Cooke Station	9D07	8150	19	9S	15E		3,4,5,5½,6	1,2
Crevice Mountain	10D05	8400	22	9s	9E		3,4	2
Fisher Creek	9D06	9100	11	9S	14E	S,P,T	1,2,3,4,5,5½,6	1,2
Crizzly Peak	9D05	8600	26	7S	19E		1,2,3,4,5	1,2
Independence	10D06	7850	21	7S	12E		3,4,5	1
Mill Creek	10D19	7500	6	7s	11E	P	3,4,5	2
Monument Peak	10D12	8800	16	7S	12E		3,4,5	1
Northeast Entrance	10D07	7600	33	9S	14E	S,P,M,T	1,2,3,4,5,5½,6	1,6
Picket Pin Lower	9D13	6200	1	5S	14E	P	1,2,3,4,5	13
Picket Pin Middle	9D12	7250	3	5S	14E		1,2,3,4,5	13
Picket Pin Upper	10D28	8100	32	4S	14E	P	1,2,3,4,5	13
PMC Dryland	8D02	3700	35	6S	23E	M,NSC	Monthly	1
PMC Headquartors	8D01	3656	34	6S	23E	P,W,T,NSC	Daily	1
Porcupine	10C03	6500	10	4N	10E	S,P	3,4,5	1
Sacajawea	10D10	6550	36	2N	6E		3,4,5	1
Silver Run	9D18	6630	11	8S	19E	S,P,T	3,4,5	1
South Fork Shields	10C08	8100	13	4N	10E		3,4,5	1
Timberline Creek	9D04	8850	10	8S	18E		3,4,5,5½,6	1
West Rosebud	9D02	7500	9	7S	16E		3,4	4
White Mill	9D08	8700	18	9S	15E	S,P,T	3,4,5,5½,6	1,2
Willow Creek	9D17	6500	31	7S	20E		1,2,3,4,5	1,2

LEGEND

1/ Blank refers to snow course only at site
S = snow pillow also
P = precipitation gage also
M = soil moisture gage also
T = max-min temperature also
W = wind run also
A = aerial marker also
NSC = no snow course at site

2/ Numerals 1,2,3,4,5,5½,6 refer to snow course or aerial marker measurements on January 1, February 1, March 1, April 1, May 1, May 15, and June 1. Most snow pillows, temperature, and wind run are daily readings, most precipitation gages and soil moisture are read monthly.

3/ Numerals refer to agency making the snow surveys as follows.

1. Soil Conservation Service
2. Forest Service
3. Caological Survey
4. Montana Power Company
5. Bureau of Indian Affairs
6. National Park Service
7. MSU Agricultural Experiment Station
8. University of Montana School of Forestry
9. Department of Energy, Mines and Resources
10. Bureau of Sports Fisheries and Wildlife
11. Private Cooperator
12. Montana Association of Conservation Districts
13. Montana Department of Fish and Game
14. Butte Water Company

Agencies and Organizations Cooperating in Montana Snow Surveys

GOVERNMENT AGENCIES

Canada:

Water Survey of Canada, Calgary, Department of the Environment
Water Resources Service, Department of Lands, Forests and Water Resources, British Columbia
Alberta Environment, Edmonton, Alberta

Federal:

Department of the Army
Corps of Engineers
U.S. Department of Agriculture
Forest Service
Soil Conservation Service
U.S. Department of Commerce
NOAA, National Weather Service
U.S. Department of the Interior
Bonneville Power Administration
Bureau of Indian Affairs
Bureau of Reclamation
Fish and Wildlife Service
Geological Survey
National Park Service

STATE

Montana Association of Conservation Districts
Montana Department of Fish and Game
Montana Department of Natural Resources and Conservation
Montana State University - Agricultural Experiment Station
University of Montana - School of Forestry

PRIVATE

Montana Power Company
Butte Water Company
The Anaconda Company

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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FEDERAL - STATE - PRIVATE

COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"